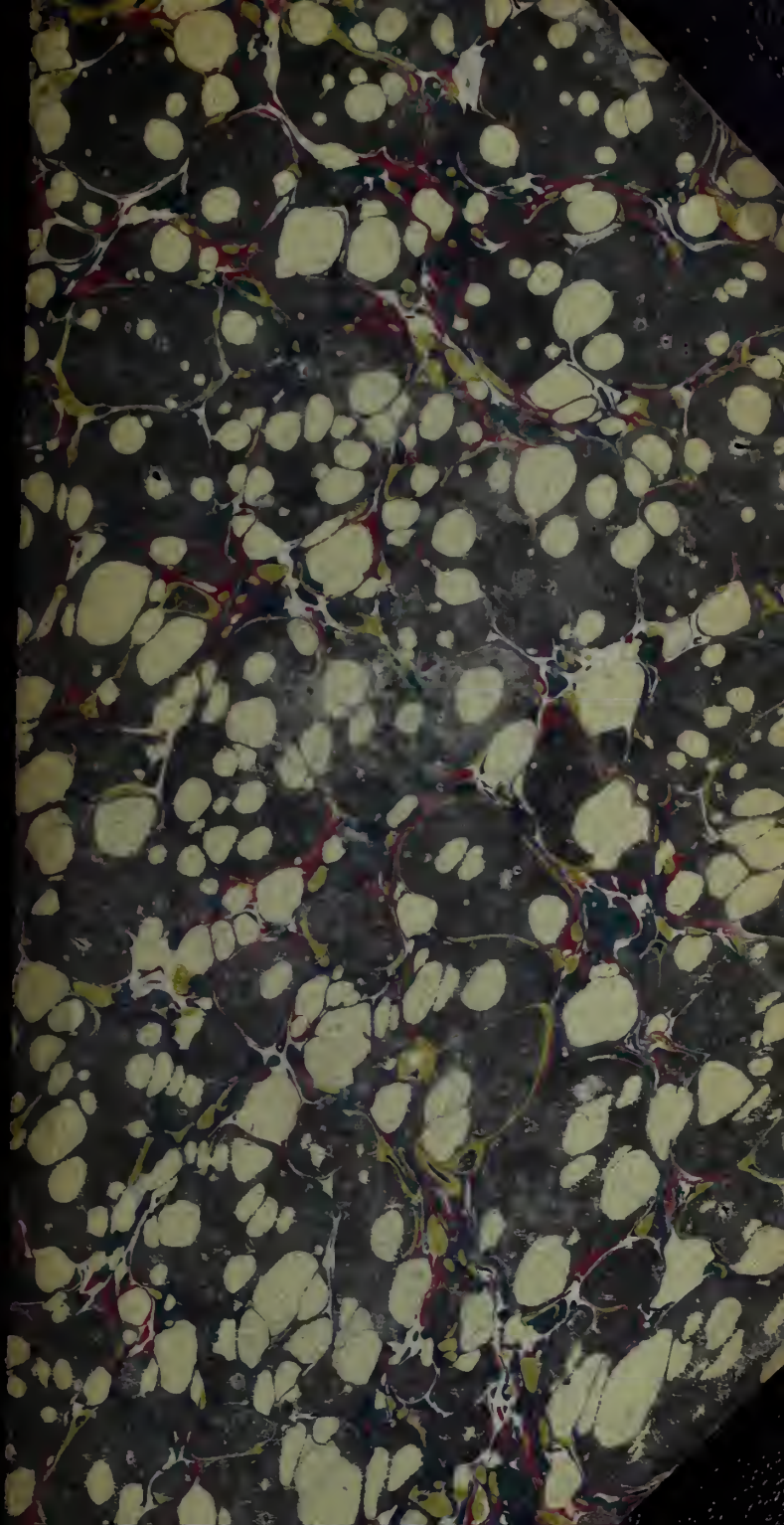

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JOURNAL

OF THE

ASIATIC SOCIETY OF BENGAL,

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VOL. XV.

"It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of Asia will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted; and it will die away if they shall entirely cease."—SIR WM. JONES.

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Notices and Descriptions of various New or Little Known Species of Birds. By Ed. Blyth, *Curator of the Asiatic Society's Museum.*

[Continued from Vol. XIV, p. 602].

Buzzards. *Archibuteo hemiptilopus*, nobis. Nearly allied to the Mexican *Arch. regalis*, figured by Mr. G. R. Gray in his illustrated work on the 'Genera of Birds'; having the tarsi, as in that species, feathered to the toes in front and externally, bare and scutated behind, and reticulated for a slight distance on either side, the latter being hidden by the feathers. Length, of probably a fine female, about twenty-eight inches, the wing twenty and a quarter, and tail thirteen inches; beak, from point to gape, two inches; and tarse exceeding three inches. Colour (of the only specimen examined) a rich deep fuscous-brown, slightly glossed with pink on the upper-parts; the inter-scapularies shading laterally to fulvescent: on the nape, the feathers are merely tipped with dusky-brown, the remainder being pure white, which shews very conspicuously: head mingled whitish and brown, the latter predominating on the crown, the former on the lower ear-coverts and throat: from the base of the lower mandible proceeds a large blackish moustache: breast fulvescent, the feathers more or less largely tipped with deep brown; and the abdomen, flanks, vent, lower tail-coverts, with the long tibial and the tarsal plumes, are of an uniform rich very dark brown throughout, approaching to blackish: primaries dusky, paler above the emargination of their outer webs, and the smaller primaries and the secondaries are

obscurely, though distinctly, banded: internally, the large alars are white at base, as in other Buzzards: tail barred throughout with many narrowish undulating bands, alternately dusky and paler, becoming successively more obscure towards the base, and the subterminal dusky band broadish; beneath, the tail is albescent to near its base, and the stems of the caudal feathers are very white, both above and below. Beak dusky horn-coloured, yellowish laterally at base of mandibles, and with apparently a livid wax-coloured cere: the toes also, and hind portion of the tarsi, livid waxy; and the talons horny-black. A very splendid species, from Darjeeling.

Another fine Buzzard, the *Buteo aquilinus*, Hodgson, nobis, *J. A. S.* (March) 1845, p. 176, has since been described by Mr. Hodgson by the name *B. leucocephalus*, in *Proc. Zool. Soc.* (April) 1845, p. 21, where he speaks of it as "peculiar to the Cachar and Tibet." I repeat my former suggestion, that it is probably the *Falco asiaticus* of Latham, described to inhabit China.

A third was described by Mr. Hodgson, in the 'Bengal Sporting Magazine,' for 1836, p. 182, by the name *Circus plumipes*, which he has since altered to *Buteo plumipes*, *Proc. Zool. Soc.* 1845, p. 37, though retaining his opinion of its near affinity to *Circus*.*

A fourth is the *B. canescens*, Hodgson, (vide *J. A. S.* XII, 308,) which is decidedly the '*Nasal Falcon*' of Latham; and Mr. Jerdon now identifies with it his *B. longipes*, and I much suspect that *B. rufiventer*, Jerdon, is merely a small male of the same. Also, I think that *B. pectoralis*, Vieillot, will prove to be no other, in which case this last specific name will have to be retained. I have procured specimens of this bird in the neighbourhood of Kishenaghur and Moorshedabad, in Lower Bengal, and have picked up an undoubted feather of it in a mangoe tope much nearer to Calcutta; but in the vicinity of Calcutta it must be very rare, if it occurs at all; preferring a more open country.

* Mr. Hodgson has recently written me word that the *Buteo plumipes*, *loc. cit.*, "is a *Circus* osculant to *Buteo*, as *B. aquilinus* (v. *leucocephalus*) is a *Buteo* osculant to *Aquila*. The latter is not a typical *Buteo* or *Archibuteo*,—witness its reticulate tarse, &c. &c. This species is inserted incorrectly in the 'Proceedings of the Zoological Society.' Instead of *plumipes* belonging "to *Buteo* proper and not to *Circus*," it should have been 'belongs not to *Buteo* but to *Circus*.'—This species I have never seen, but must confess to theoretical doubts of its truly connecting *Circus* with *Buteo*: the latter genus and *Aquila*, on the other hand, are very closely allied, in fact but slight modifications of the same immediate subtype; and species of intermediate character might have been looked for.

B. pygmæus, nobis, *J. A. S.* 1845, p. 177, is a fifth decided species, from the Tenasserim provinces.

To the genus *Spizaëtus* of Vieillot, Mr. G. R. Gray refers *Nisaëtus* of Mr. Hodgson as a synonyme (as I formerly did, in *J. A. S.* XI, 456, and XII, 305); thus bringing together certain species of the Old World and of the New, concerning which suspicion at least of respective generic diversity had been entertained. *Morphnus* of Cuvier, however, which had generally been placed as synonymous with *Spizaëtus*, is confined by Mr. Gray to certain naked-legged species of South America, as *M. urubitinga* and its affines; and, finally, *Limnaëtus*, Vigors, is referred by the same systematist to *Spixaëtus*, though to judge from Dr. Horsfield's figure and description of *L. unicolor* (its type), he would scarcely seem justified in doing so.

Upon a former occasion (*ante*, p. 176), I indicated the four Indian species of undoubted *Spizaëtus* (vel *Nisaëtus*), after describing what I conceived to be a new species of the form from Malacca, by the name *Nisaëtus alboniger*.* This last, however, proves to be decidedly the true *Falco caligatus* of Raffles, (as was first pointed out to me by my friend Dr. Cantor,) and will therefore now range as *Sp. caligatus*, (Raffles): consequently, it remains to determine what specific name the common Bengal species, which I formerly conceived to be *caligatus*, should retain; and this will probably be *nipalensis*, (Hodgson,) since considerable doubt must attach at present to the identification of it with the Javanese *Falco niveus* of Temminck. The species in question is the *Bauj Eagle* and *Nerwied Eagle* of Latham, but does not appear to have received a distinctive systematic name prior to that bestowed by Mr. Hodgson, and which should refer exclusively to his supposed crestless variety of the species, which usually presents a mere rudiment of an occipital crest, very rarely further developed; though I have obtained one middle-aged specimen (out of several dozens,) with a crest two inches long.† This bird would appear to be very rare in the Himalaya, while in the plains of Lower Bengal it is extremely numerous. I lately saw one specimen in a large collection from Darjeeling: but Mr. Hodgson's supposed crested variety of the species, subsequently

* Also described under this name by Lord Arthur Hay, *Madr. Journ.* No XXXI, 145.

† More recently, also, another and younger specimen, with a slight crest, though still very unusually developed for the species.

termed by him *N. pallidus*, and which I refer to *Falco indicus cirratus* of Ray (v. *F. cirratus*, Shaw), seems to be exclusively a hill bird, as are also our other crested species, *Sp. pulcher* and *Sp. Kieneri*.

The variation in development of crest here noticed of *Sp. nipalensis*, is both curious and instructive: a tendency to such prolongation of the central occipital plumes being observable in various other *Falconidæ*, as especially in *Hieraëtus* (Kaup, v. *Aquila*,) *pennatus*, and slightly in *Buteo canescens*; while in the Indian *Pernis*, which is currently regarded as a peculiar species by the name *P. cristata*, the crest is very commonly reduced to a mere rudiment (which might remain unnoticed if not looked for), while in other specimens the feathers composing it are prolonged an inch beyond those they immediately impend. Hence I have some suspicion whether the species is really distinct from *P. apivora*; and I also doubt whether more than a single species of this very variable bird has been yet discovered. All those which are mentioned by Mr. G. R. Gray, I would thus provisionally reduce to one, with the exception of my *Lophastur Jerdoni*, (*J. A. S.* XI, 464,) which is erroneously referred by Mr. Gray to this genus; it being strictly an aberrant *Baza*, and perhaps identical with *B. magnirostris* of the Philippine Islands, mentioned by Mr. G. R. Gray, though I suspect as yet undescribed.* While on this group, I may further remark that *Buteo cristatus*, Vieillot, has been currently regarded as a synonyme of *Baza lophotes*; but, as described in the *Dict. Class.*, where moreover Australia is assigned as its habitat, it can neither be *B. lophotes* nor *B. subcristata* figured in Gould's 'Birds of Australia'; and if not a "*Buse Bondrée Huppée*," as he terms it (or Honey Buzzard), it is not improbably the young of *Aquila? morphnoides*, Gould, exhibiting a coloration analogous to that of the immature plumage of its nearly allied congener, *Hieraëtus pennatus*, and in such case ranking as *H. cristatus*, (Vieillot).

* I had scarcely written the above, when the Society received a second fine collection of Scandinavian objects of Natural History from the University of Christiania. A specimen of *Pernis apivora* is included, and I find the species is distinct from *P. cristata*: the great variation of plumage is the same in both, and the varieties correspond; but in *P. apivora*, in addition to there not being the slightest tendency to the formation of an occipital crest, the beak is conspicuously smaller, and the toes are much shorter. Thus, in two specimens of exactly the same general dimensions, the middle toe of *P. apivora*, from its separation from the next to the insertion of the talons, measures an inch and a half; while in *P. cristata* it measures an inch and seven-eighths, with the rest of the foot in proportion. The reticulate scutation of the leg and foot is also much more prominent than in *P. apivora*.

Among the true Hawks, we have a similar occipital crest in *Astur trivirgatus*, (Tem.,) to which may be referred *A. indicus*, Hodgson, (*Beng. Sp. Mag.* 1836, p. 177,) it being also the supposed *A. palumbarius* of Mr. Jerdon's Catalogue. The Society has lately received fine specimens of this Goshawk from Yé (Tenasserim), forming part of a valuable collection from that province, presented by the Rev. J. Barbe, R. C. M.*

Of Indian true *Aquilæ*, as Mr. G. R. Gray now adopts the genus, as many as nine species exist, which are as follow:—1. *Tolmaëtus*† *Bonelli*, the *Nisaëtus grandis*, Hodgson, and 'Genoese Eagle' of Latham: peculiar to hilly regions.—2, *Aq. chrysaëtos:* Himalaya, and perhaps Col. Sykes's Dukhun bird, though Mr. Jerdon's supposed 'Golden Eagle' of South India, refers to the next species.—3, *Aq. mogilnik, imperialis*, and *heliaca*, Auct. India generally, chiefly however the mountains. Of this robustly formed Eagle, there are two phases of plumage. One is the dark brown, with pale head and nuchal plumes, blackish forehead and throat, and often a great white patch on the shoulder: the other has pale central stripes to the feathers of the back, which are much broader on those of the neck and under-parts, where they have merely dark lateral margins, and the wing also is more or less spotted; in the latter plumage, the feathers of the back and especially those of the breast and under-parts are considerably more lengthened, attenuated and pointed, than in the other; and the dress certainly does not appear to be juvenile, but analogous rather to the spotted garb of *Aq. nævia.* To judge from Hardwicke and Gray's figure, it might be thought the immature plumage of *Aq. bifasciata*, but such is not the case.—4, *Aq. bifasciata*, Gray, *v. nipalensis*, Hodgson, *As. Res.* XVIII, pt. II, p. 13. Equal to the last in size, but less robust; and colour a dead brown, with the secondaries and great range

* Dr. M'Clelland has lately favoured me with permission to look over his drawings of Assamese animals; among which is one of his *Spizaëtus rufitinctus, Proc. Zool. Soc* 1839, p. 153, which I consider merely to represent the adult female of *Astur trivirgatus.*

† This group comprises *T. Bonelli* of Southern Europe and Asia, and I believe North Africa; and *T. bellicosus*, v. *armiger*, (Shaw,) of South Africa. Mr. Hodgson thinks that his name *Nisaëtus* should now stand for this form; but as he has figured *nipalensis* as the "*type* of the new genus *Nisaëtus*," *J. A. S.* V. 227, and subsequently characterized that form as short-winged, VI, 361, and elsewhere spoken of *grandis* as "an aberrant species," I am compelled in this case to dispute his claim to the sponsorship, however unwillingly.

of coverts tipped with fulvous-white, forming two conspicuous bars on the wing; lower tail-coverts also fulvous-white, and tail tipped with the same: wing twenty-two inches. A rare species, inhabiting mountainous territory, and chiefly the Himalaya. Capt. Phayre has favoured the Society with a very fine specimen from Arracan.—5, *Aq. nævia*, (Gm,); 'Spotted Eagle,' 'Rough-footed Eagle,' and 'Brown-backed Eagle, Var. A', of Latham. A beautiful and very variable species in its colouring, allied in form to the last, but smaller; and larger, but less robust, than the next. Fine adult males are richly empurpled brown, with fulvous-white terminal stripes, more or less developed, on the interscapularies, scapularies, and smaller wing-coverts; larger and pure white spots on the greater coverts, and two white bars tipping the secondaries and largest coverts, as in *Aq. bifasciata;* tibial plumes similarly spotted, the under tail-coverts and generally the short tarsal plumes white, and the abdomen streaked with fulvous; cere, orbits, and toes, beautiful yellow: wing generally about twenty inches. Others have the streaks of the upper parts much more developed, but the white dingy and subdued, and the dark colour generally paler: such are mostly females; and others again, especially of the latter sex, are dull brown throughout (inclusive of the lower tail-coverts), with sometimes paler head and neck-hackles, the latter being however generally, though still not always, tipped paler. This Eagle is very common in the Bengal Soonderbuns, and I have seen it also from the Himalaya, and from Central India.—6, *Aq. fulvescens, fusca*, and *punctata*, Gray and Hardwicke: *Aq. vindhiana*, Franklin. Smaller and more robust than the last, a miniature of *Aq. mogilnik;* wing eighteen or nineteen inches, rarely twenty. Some (females?) are uniformly deep fulvous-brown throughout: others light fulvous, brightest upon the head and throat, obscured and dingy on the back and scapularies, and whitish below, with dark shafts and bases of feathers; these appear to be the young: but the most characteristic plumage (that of the adult male?) is tawney or fulvous-brown, more fulvous on the neck-hackles, which are tipped paler; head and throat dusky, the coronal feathers tipped paler; wings, breast, and lower-parts, deep fuscous, the breast slightly speckled—and the belly and wings spotted and streaked—with light tawny-brown; wing-bars, and tail-tip, as in the two preceding species. Common in the plains of Upper India, and along the banks of the Ganges above Monghyr, also in the

peninsula; but I have never seen it from the Himalaya, nor from the Soonderbuns, where *Aq. nævia* is so abundant.—7, *Aq. hastata; Morphnus hastatus*, Lesson: *Spizaëtus punctatus*, Jerdon, *Supp.* This so much resembles *Aq. nævia*, that it requires some practice to distinguish the two species always, with certainty; and the same may be said of *Aq. nævia* and *Aq. fulvescens;* but the last named species could never be confounded with the present one. It is altogether a more feeble bird than *Aq. nævia*, with smaller bill and feet, and proportionally somewhat longer tarsi, but which appear considerably more so from their slenderness. Plumage variable; but colour always a dead brown, as in *Aq. bifasciata;* the neck-hackles smaller than in the other species. The finest adult male which I have procured has the coronal feathers lanceolate, and edged paler; a sort of supercilium formed by a range of feathers with small whitish tips; the nuchal hackles also tipped whitish, and the feathers of the lower neck have each a terminal white speck; three distinct ranges of white terminal spots on the wings; the tertiaries broadly whitish-tipped; the breast and flanks beautifully striped with a whitish medial streak to each feather, those of the belly having a further central dark one; and the lower tail-coverts and tarsal plumes are pale and mottled. Another adult male has the spots generally much less developed, but is otherwise nearly similar. Females are commonly darker brown, with no spots, except occasionally some on the smaller wing-coverts, and especially about the bend of the wing. The young are lighter brown, with sometimes, traces of streaks on the pectoral and abdominal feathers; and the interscapularies and tertiaries are dark, contrasting strongly with the whitish inner scapularies adjoining.—8, *Hieraëtus pennatus*, (Br.) Kaup; *Spizaëtus milvoides*, Jerdon: *F. lagopus*, Bengal variety, Latham. This form chiefly deviates from the robust typical Eagles in its small size, and proportionally small and Buzzard-like beak; also in shewing a tendency to exhibit an occipital crest; in which respect, as also in the whiteness of the under-parts in the young bird, it approximates the *Spizaëti*. *H. pennatus* has invariably a white shoulder-spot at all ages, and almost as constantly a white forehead. It is extensively distributed over the country.—9, *Ictinaëtus malaiensis*, (Reinwardt) Jerdon; *Aquila, Heteropus*, and *Neopus, perniger*, Hodgson: *Spizaëtus?? ovivorus*, Jerdon, *Supp.* Remarkable for its very long wings; its blackish colour throughout, varied with white bands under the tail; and for the extraordinary disproportion of its front toes and claws, of which the inner is

particularly large, and the outer singularly small. Peculiar to mountain regions. This bird conducts in some respects to *Archibuteo*.

These several Eagles exhibit variation of habit, as of form. The *Ictinaëtus* is pre-eminently a nest-robber, and feeds much on eggs: vide *J. A. S.* XII, 128; where also is a notice of the nest-plundering propensities of *Aq. hastata*, under the supposition of the latter species being *Limnaëtus unicolor*. The more powerful of the tribe do not disdain to feed on carrion; and Mr. Elliot remarks, of *Aq. fulvescens*,—"The *Wokhab* is very troublesome in hawking after the sun becomes hot, mistaking the jesses for some kind of prey, and pouncing on the Falcon to seize it. I have once or twice nearly lost *Shaheens*" (*F. peregrinator*,) he adds, "in consequence, these flying to great distances for fear of the *Wokhab*." This is probably, therefore, the *Jimach* mentioned by Buchanan Hamilton, (in Montgomery Martin's compilation from his *MSS.* I, 505). "The only pursuit worth notice which I saw in several days' hawking," observes the author, "was from a large bird of prey named *Jimach*, which attacked a very strong Falcon as it was hovering over a bush into which it had driven a Partridge. The moment the Falcon espied the Jimach it gave a scream, and flew off with the utmost velocity, while the Jimach eagerly pursued. They were instantly followed by the whole party, foot, horses, and elephants, perhaps 200 persons, shouting and firing with all their might, and the Falcon was saved, but not without severe wounds, the Jimach having struck her to the ground. I have never been able," adds Buchanan, "to procure a Jimach; but it appears to be a small Eagle, and is said to live entirely on other birds of prey." *Aq. fulvescens*, however, is a very indiscriminate feeder, preying on rats, lizards, snakes, insects, and sometimes even carrion; besides hares, and in fact whatever, living or dead, it happens to meet with: still the fact of its attacking Falcons, or indeed of any bird of prey attacking another, except for combat, or as when a tame Falcon is flown at a Kite, (of Hawks thus "picking out Hawks' een,") is, I apprehend, little known to the majority of naturalists. Lastly, *Hieraëtus pennatus* is a noted robber of the dove-cot and poultry-yard; whose depredations, as Mr. Jerdon remarks, are probably often mistaken for those of the Kite.

Ephialtes spilocephalus, nobis, *n. s.? Noctua auribarbis* (?), Hodgson, mentioned in *J. A. S.* VI, 369: *Athene badia*, (?), Hodgson, enumerated in Mr. G. R. Gray's list of the Raptorial birds in the British Museum.

This little Owl is certainly an *Ephialtes* (vel *Scops*, Auct., though it appears this latter-name was first appropriated to the Crowned Cranes), and probably a young bird, from the loose and floccose character of its plumage; but the aigrettes are not easily made out in the only specimen examined, though I believe that I have distinctly traced them. Its size is that of *Eph. lettia*, but the bill, feet, and talons, are considerably smaller. Length about nine inches, of wing six, and tail three and a quarter; bill, in greatest vertical depth, seven-sixteenths of an inch; feathered tarse an inch and one-eighth; length of middle toe and claw but an inch, the claws slender, delicate, and of a whitish hue; beak pale yellowish, or yellowish-white. The plumage of the head is very full and puffy, the feathers loose and light; each of them having two pale-coloured spots, set off with blackish, and the rest of the feather a dull light bay or tawney, a little pencilled: facial disk fulvescent. Upper-parts uniform dull tawney, pencilled with blackish; and the ordinary white spots occur on the outer scapularies: the primaries have also a series of three white bands on the unemarginated portion of their outer webs (the emargination being very slight): the secondaries and tertiaries are principally bay on their outer webs, with imperfect blackish bands; and the tail is barred with the same colours in about equal proportions, the central feathers having six tawney-rufous bands. Under-parts paler than those above, minutely speckled with dusky, and with some larger whitish spots set off with blackish: lower tail-coverts white, a little barred, except the longest which are distinctly so; the tarsal plumes tawney-rufous, with dusky bars. From Darjeeling.*

Syrnium nivicolum, Hodgson, XIV, 185. Since describing this species, I have seen several fine specimens. One, from near Simla, presented by L. C. Stewart, Esq., now of H. M. 50th Ft., has the wing twelve inches and a half: colour dusky above, mottled with larger spots of fulvous-white than in that formerly described; but the under-parts are much the same. Two males and a female, the former with wing eleven inches,

* In the 'Madras Journal,' No. XXXI, 120, Mr. Jerdon describes a *Scops (Ephialtes) griseus*, which = *lettioides*, Jerdon, nobis, *J. A. S.* XIV, 182. Dr. Stewart has recently favored the Society with a specimen, from near Futtehpore, on the route from Allahabad to Cawnpore, which tends to indicate the specifical identity of *Eph. lettia* and *Eph. lettioides*.

the latter twelve and three-quarters, from Darjeeling, are dusky, with the light mottlings much deeper fulvous, and there is a considerable admixture of pure white below the facial disk. Not improbably these were younger than the others.*

In XIV, 188, I suggested that *Buceros bicolor*, Eyton, is probably the *B. malabaricus* apud Raffles, and *B. albirostris* apud Horsfield; but I have since seen several specimens of a Malayan species intermediate to those two, combining the bill and casque of *B. albirostris* with the size and white outer tail-feathers of *B. pica* (vel *malabaricus*): this, Lord Arthur Hay considers to be *B. violaceus*, Wagler†; and the Society lately received a young bird of the species in question from Penang. The large head and casque referred to *B. albirostris* in XII, 995, I now consider to belong to the allied Penang species. The Society has lately received specimens of true *B. albirostris* from the Tenasserim province of Yé, undistinguishable from the bird of Bengal, Nepal, Assam, and Arracan: we had previously a Tenasserim specimen of the young of *B. albirostris*, presented on a former occasion by Mr. Barbe.

* The Norwegian collection has supplied us with three fine specimens of *S. aluco*, all of the non-rufous variety, and very different from the one we previously possessed. *S. nivicolum* is very nearly allied, and the under-parts of some specimens of the two species are undistinguishable: but the dusky ground-tint is much more predominant on the upper-parts of *S. nivicolum*, to an extent that the two could scarcely be confounded.

Here it may be remarked that the common *Ninox scutellatus*, which occurs in most collections from Malacca, has, in addition to its various other synonymes, been recently designated *Athene malaccensis* by Mr. Eyton, *An. and Mag. N. H.* 1845, p. 228: and in the same paper,—*Criniger gularis*, (Horsfield), is termed *Pycnonotus ruficaudatus*;—*Ixidia cyaniventris*, nobis, =*Malacopteron aureum*;—*Timalia pectoralis*, nobis, =*Malacopteron squamatum*;—*T. striata*, nobis, =*Brachypteryx maculatus*;—*T. crythronotus*, nobis,=*Br. nigrogularis*;—*T. erythroptera*, nobis,=*Br. acutirostris*;—*Muscipeta plumosa*, nobis, (of which it seems I described the female only,)=*Philentoma castaneum*, which must accordingly be altered to *Ph. plumosum*;—and a state of plumage of the bird I described as *Hemicercus concretus* (XI, 195,) is described by the name *Dendrocopus sordidus*. Mr. Eyton's *Ixos metallicus* would seem to be nearly allied, except in size, to the species which I designated *Brachypodius melanocephalus*, XIV, 176.

It is to be regretted that Capt. Charleton did not permit me to look over his collection of Malayan birds, when he had them in Calcutta; for all these useless synomymes would then have been avoided. I offered to have them labelled for him.

† Described by his lordship in the *Madras Journ.* No. XXXI, p. 148: and following this are descriptions of *B. comatus*, *B. malayanus*, and *B. Ellioti*, which last is *B. bicolor*, Eyton, apud nos, and, as I still think, rightly identified with the latter.

Hoopoes. This group is treated of in XIV, 189. I have now to add that the Tenasserim Hoopoe equals *Upupa epops* in size, but is considerably more rufous, and conspicuously so on the crest, which resembles that of *U. minor* of S. Africa: one specimen is also very rufous at the shoulder of the wing, and another moderately so; bill of each two inches and a half to forehead; and wing five and a half to five and three-quarters.

Halcyonidæ.—Todiramphus varius; Halcyon varia, Eyton, *P. Z. S.* 1839, p. 101. What I take to be the adult male, (and perhaps the adult of either sex,) of this species, is a beautiful bird, the colouring of which serves to connect *Todiramphus* (as exemplified by *T. collaris* and *T. sacer*,) with *Halcyon atricapillus* (v. *albiventer* of Scopoli, a name too inappropriate to be retained); but the beak is strictly that of *Todiramphus*. Length about nine inches, or nearly so; of wing four inches, and tail two and three-eighths; bill to forehead (in rather the larger of two specimens,) an inch and three-quarters; and the gape two and a quarter; tarse five-eighths of an inch. Cap green, rufescent on forehead, and margined posteriorly with verditer; a broad black stripe commences at the lores, and meets its opposite behind; above this is a slight rufous supercilium, and below it a broad rufous streak continued to the nape, and comprising the lower ear-coverts; below this again, is a very large rich purplish-blue moustache, commencing at the base of the lower mandible: the nape and breast are brilliant ferruginous, paling on the throat and belly, and the mantle, wings, and tail, are deep purplish-blue, each feather touched with ultramarine-blue on the wings, while the rump and upper tail-coverts are vivid verditer: bordering the ferruginous of the nape is a band of deep black. Bill dusky above, the rest apparently bright yellow; and legs probably coral-red. From Malacca.

In XIV, 190, I described a new Kingfisher from Darjeeling, by the name *Alcedo grandis;* which otherwise resembling *A. ispida*, is as much larger than that bird, as *A. bengalensis* is smaller: *A. ispida* is common in Afghanistan. Another closely allied species, which perhaps has not yet been distinguished from *A. bengalensis*, inhabits the Moluccas, and which I may provisionally call *A. moluccensis*: this differs from *A. bengalensis* in having a vertically *much* deeper bill, and from all its allied species in having the ear-coverts not rufous, but deep indigo-blue; the mottled feathers of the crown and neck, moustache, and wings, are also

more of a Prussian blue than in *A. grandis, ispida,* and *bengalensis:* wing three inches; depth of bill about three-eighths of an inch. Another closely allied species is the *A. meninting,* Horsf., v. *asiatica* of Swainson's Illustrations, which has the crown, neck, and wings, mottled indigo blue, scarcely any moustache, the back and upper tail-coverts ultramarine, and the breast and flanks deeper and richer ferruginous than in the others.—*A. biru,* Horsf., is another beautiful little Malayan Kingfisher, of a predominating light verditer-blue above and across the breast, but the marking of its under-parts allies it to certain African Kingfishers, as *A. semitorquatus,* and another which I have been unable to determine.

Bucconidæ (Barbets). There are three, if not four, species of Indian Barbets, having the general plumage of *B. caniceps,* Franklin, the distinctions of which may be advantageously pointed out.—1. *B. lineatus,* Vieillot, apud *Dict. Class.;* described to inhabit Sumatra. Length about ten inches, the wing five to five and a quarter. Upper-parts green, weaker on the flanks, and still paler and more yellowish on the vent and lower tail-coverts, spreading over the abdominal region in some: head, neck, throat, and breast, whitish, confined on the crown to an ill defined medial streak on each feather, the rest being dusky; on the nape, these streaks are contracted and better defined, often upon a green ground, and they gradually disappear on the back; throat spotless whitish; the sides of the neck and breast having each feather laterally margined with dusky-brown, the whitish however much predominating. Common in some parts of Bengal, and in Nepal, extending westward to the Deyrah Doon; also in Assam, Sylhet, Arracan, and the Tenasserim provinces, whence it probably extends into Sumatra.—2. *B. caniceps,* Franklin; *B. lineatus,* apud Tickell. Rather smaller, the wing measuring from four inches and a half to four and seven-eighths, though rarely exceeding four and three-quarters. The general plumage also similar; but the head, throat, and breast, much darker; the throat dusky-brown instead of whitish; and pectoral feathers with merely a narrow, ill defined, pale central streak, often scarcely present; lower breast paler: the back commonly more streaked with whitish than in *B. lineatus:* and, what constitutes a ready distinction of *B. caniceps,* the wing-coverts and tertiaries have each a terminal whitish speck, of which there is never the slightest trace in the other. This species inhabits the peninsula generally, and Upper India, meeting *B. lineatus* in the Doon; but

I have not seen it from Nepal, Bengal, or any of the eastern countries which are tenanted by *B. lineatus*.—3. *B. viridis*, Gmelin. Much smaller than the preceding: the crown spotless dusky-brown; mere traces of the lineation on the neck, and scarcely any on the breast; the throat and breast paler than in *B. caniceps;* and no whitish specks on the wings. Inhabits the Indian peninsula, and chiefly, I believe, to the southward.—4? *B. zeylanicus*, Gmelin, founded on the "Yellow-checked Barbet" of Brown's Illustrations. This is described (but not figured) to have the "coverts of wings green, with small white spots in the middle of each feather:" hence, Mr. Jerdon has referred to it the *B. caniceps;* but as the figure is stated to be "more than two-thirds of the size of the living bird," whereas it is but one-third of the linear dimensions of *B. caniceps*, and but half that of *B. viridis*, it probably represents a distinct species, approaching the last in size, and with the wing-specks of *B. caniceps*.

Of the other Indian Barbets, two are confined to the Himalaya, *B. grandis*, Gm., and *B. Franklinii*, nobis. *J. A. S.*, XI, 167. *B. indicus* (vel *philippensis*) is common throughout the country, also in the Tenasserim Provinces, and Sir Stamford Raffles includes it in his list of Sumatran birds; but I have never seen it from Arracan. *B. asiaticus* (the *Trogon asiaticus* of Latham and Gmelin), vel *cyanocollis*, Vieillot, and *cyanops*, Cuvier, abounds in the Sub-Himalayan region, in Nepal, Bengal, Assam, and Sylhet, but becomes comparatively rare in Arracan, and also in the Indian peninsula. *B. barbiculus*, Cuv., or a species which agrees sufficiently with the description of this in the *Dict. Class.*, inhabits Malabar; though *barbiculus* is said to be from the Moluccas. I add a description of an Indian specimen, sent on loan by Mr. Jerdon. Length five inches; of wing three and one-eighth; and tail an inch and three-eighths; bill to forehead five-eighths; and tarse three-quarters of an inch. General colour deep green; the forehead, around the eyes, and the throat, crimson, the last margined with yellow; occiput and cheeks pale blue. In Arracan, there is further the *B. australis*, Horsfield, v. *gularis*, Tem.; but the crimson of the cheeks, sincipita, and moustaches, seems invariably to be much less brilliant than in Malacca specimens.

Five species occur commonly in collections from Malacca, (besides the *Caloramphus Lathami*, v. *Megalorhynchus spinosus* of Eyton, which is there common): viz. *B. chrysopogon*, Tem.;—*B. versicolor*, Raffles.;—*B. armil-*

laris, Tem. ;—*B. quadricolor*, Eyton ;—and *B. australis*, Horsf. :—a *B. trimaculatus*, Gray, is also mentioned by Mr. Eyton from the same locality ; and without having a specimen of his *B. quadricolor*, *P. Z. S.* 1839, p. 105, for present comparison, I rather suspect its identity with *B. mysticophanes*, Tem., and with *B. Rafflesii*, Lesson, *Rev. Zool. de la Soc. Cuv.*, 1839, p. 139. The following description is from specimens in Lord A. Hay's collection. Length about nine inches ; of wing three and three-quarters ; and tail two and a quarter : bill to forehead an inch and three-eighths ; and tarse an inch. Colour green, with an emerald margin to the feathers of the nape ; forehead bright yellow ; crown, throat, lores, and a spot on the side of the breast, crimson ; beneath the eye, and middle of fore-neck, also crimson ; sides of the crown, above and posterior to the bare ocular region, black ; and a yellowish tinge towards the base of the lower mandible : emarginated portion of primaries edged with dull yellow ; and tail bluish underneath : bill, legs, and the bristles at base of bill, black. A presumed female has the crown, lores, and spot at side of breast, crimson, but less defined than in the (presumed) male ; throat mingled green and yellowish, passing to bluish on the fore-neck ; forehead bluish, with yellow shafts to feathers, and some blue beneath the eye and at the base of the lower mandible ; the latter is for the most part white. Length of wing, three inches and three-quarters.

Picidæ. Woodpeckers. Typical *Picus*, apud G. R. Gray : *Dendrocopus* of Swainson. I attempted a synopsis of the Indian species of this group, in XIV, 196 *et seq.* ; since the publication of which, the Society has been favoured by the Natural History Society of Batavia with a very interesting collection from Java and the Moluccas, which has enabled me to compare various Indian species with their Malayan representatives. Among them is the little *Picus moluccensis*, which, though closely approaching to the Indian species referred to the same, yet exhibits some differences upon minute comparison. Both are certainly distinct from *P. canicapillus* of Arracan. As compared with the Indian species, that of Java has rather larger bill and feet ; the crown is darker-coloured, passing to blackish, or deeply infuscated, on the occiput and median line of nape ; the wings are shorter, measuring two inches and seven-eighths, while in the Indian species they are three and one sixteenth ; and, lastly, there is a difference in the barring of the tail-feathers, and in the form of the tips of the more outer ones, which

in the Indian bird are more rounded, or somewhat truncated, with a slight emargination at the tip of the shaft, while in the Javanese bird they attenuate and are obtusely pointed; the white bars also assume more the appearance of transverse bands in the Javanese species, and of separated round spots in that of India; while the outermost feather is in the former tipped with white, and the penultimate has an all but terminal white bar, both these feathers in the Indian bird being broadly black-tipped, with a more interrupted white bar above. Should these differences prove constantly distinctive, Mr. Jerdon proposes the name *Hardwickii* for that of Southern India,* and which Dr. Stewart has recently obtained near Cawnpore, a vicinity in which it was also procured by Gen. Hardwicke.

With a few Australian birds, I lately purchased a Woodpecker, allied to *P. Macei*, which I have not been able to determine. There is no reason to suppose it inhabits Australia, where not a single Woodpecker has yet been discovered; and while the known Australian species in this small collection (including *Eudynamys australis*, Sw., quite distinct from the Indian Coël,) were brought as skins, the Woodpecker alone was mounted and wired. General aspect that of *P. Macei;* but with merely a faint tinge of red on the lower tail-coverts, and that of the crown is also much less developed, but slightly tipping the feathers, which elsewhere are black (there is an appearance, however, of the crimson having been much abraded on the crown of this particular specimen): all the tail-feathers are barred with white, the middle pair on each web alternately, and the rump is confusedly rayed with white and dusky black: breast spotted with linear streaks; and the flanks and belly marked with obscure transverse rays. Length nearly seven inches; of tail two and a quarter; (wings imperfect in the specimen;) bill to forehead (through the feathers) barely seven-eighths of an inch. If new, *P. pectoralis*, nobis. Hab. —— ?

Sub-genus *Gecinus*. The *Picus affinis*, Raffles, is identified with *P. dimidiatus*, Tem., in the Zoological Appendix to Lady Raffles's 'Life of Sir St. Raffles, p. 668; and *Gecinus viridanus*, nobis, is certainly another synonyme of the same. This bird seems common throughout the eastern coast of the Bay of Bengal, as in Arracan and the Tenasserim

* *Madras Journal*, No. XXXI, 138.

provinces; in which latter range of territory *G. occipitalis*, (Vig.,) v. *barbatus*, (Gray,) undistinguishable from the Himalayan bird, appears likewise to be of plentiful occurrence.

G. chlorigaster, Jerdon, *Madr. Journ.* No. XXXI, 138: *Picus mentalis* apud Jerdon, *Catal.* Though closely allied to *G. chloropus*, Vieillot, v. *nipalensis*, Gray, with which I formerly identified it, this Woodpecker proves on comparison to be a distinct species. It is rather smaller than *G. chloropus*, and readily distinguishable by the crimson of its whole occiput, which is transversely separated from the dark green of the crown, and forms a pointed crest behind, which completely overhangs the silky yellow feathers of the nape: in *G. chloropus*, this yellow nuchal crest is much more developed, and the crimson is confined to the sides of the occiput, the central portion being green continued from the forehead, and the partly red and partly green occipital crest is not prolonged to the length of the yellow feathers beneath it. *G. chloropus* has the colours generally brighter and more contrasted than *G. chlorigaster:* the dusky green of the neck and breast contrasts with the brighter green of the upper-parts; there is a greater admixture of white about the throat and ear-coverts, which last are uniform dark green in *G. chlorigaster;* and the loral feathers are conspicuously white, with a black streak above, this white being scarcely observable in *G. chlorigaster:* the mottling of the flanks is also of a different pattern. Length of wing four inches and three-quarters; in *P. chloropus*, five inches to five and a quarter. Inhabits Southern India.

In XIV, 193, I distinguished three species of the three-toed Woodpeckers forming the division *Tiga* of Kaup; and in a note to p. 551, I mentioned the existence of a splendid fourth species from Malacca. The latter proves to be the *P. Rafflesii*, Vigors, of the 'Appendix to Sir St. Raffles's Life' by Lady Raffles, p. 669. I took the following description of a female, in the collection of Captain Thomas, of the 39th Regt. B. N. I. Length a foot; of wing five inches and three-quarters, and of middle tail-feathers four and three-quarters: bill to gape an inch and five-eighths. Colour dull uniform golden-green above; the crown, much lengthened occipital feathers, primaries and their coverts, and tail, dusky black, with whitish tips to the primaries; forehead ruddy orange; throat and moustaches, pale yellowish-buff; and lower parts of a dingy, ruddy, somewhat dusky, greenish-brown, with some transverse whitish spots

on the flanks; ear-coverts blackish, bordered above and below with a white streak, and bounded posteriorly by a white patch; and below the inferior white line and patch is another broad streak of black. Bill dusky-greenish towards base of lower mandible; and the legs appear to have been green. The male (describing from memory, assisted by the latin definition cited,) resembles the female, except in having the whole crown and the much lengthened occipital feathers, very brilliant crimson.* This beautiful species obviously connects the subdivision *Tiga* (v. *Chrysonotus*, Swainson,) with *Gecinus* (v. *Chrysoptilus*, Sw.): indeed, were it not for the absence of the fourth toe, I should scarcely have hesitated in referring it to *Gecinus*, regarding it, however, as a link between that division on the one hand, and *Brachypternus* and *Tiga*, on the other. In the Appendix to Lady Raffles' work cited, *P. Rafflesii* is stated to be of the size of *P. tiga;* which latter (as here referred to) I believe to be my *T. intermedia*, which is common in the Tenasserim Provinces, and that it is the Sumatran *P. tiga* of Raffles; while the Malacca species is of the same small size as that of Java, lately received by the Society, (the females of which have the head differently spotted from those of *T. intermedia*,) and to which I have appropriated the name *Tiga tridactyla*.†

With regard to the species of *Brachypternus*, (p. 550 and note), Mr. Jerdon informs me that the common species of Southern India is identical with true *Aurantius (v. bengalensis)*, of which I sent specimens for comparison; and the same gentleman has favoured the Society with an example of his *P. (Micropternus) badius* of Southern India, which Lord A. Hay considered (p. 551) to be distinct from both its Bengal and Malayan representatives: it is, indeed, intermediate to the other two, both in size and colouring; and combines the infuscated crown of *M. phæoceps* with the dark throat of *M. badius* (verus), its tail-bars being also closer than in the others, amounting to six in number on the middle feathers, additional to the dusky tips, whereas the other species have only five. Mr. Jerdon designates it *M. gularis*.‡ The range of *M. phæoceps* ex-

* Correct; and the colours also generally somewhat brighter.

† In the same Appendix, I find described a *Phœnicophaus caniceps*, which is the young of *Rhinortha chlorophæa;—Dicœum croceoventre=D. trigonostigma*, (Scopoli), v. *cantillans; Chlorôpsis zosterops=Phyllornis Sonneratii*, fœm.;—and *Vinago giganteus*, which there can be little doubt refers to *Treron Capellei*.

‡ *Madr. Jour.* No. XXXI, 191.

tends southward to the Tenasserim Provinces, and one female from thence has the wing fully five inches long; that of *M. gularis* measures four inches and three-quarters.*

Cuculidæ. The oriental species of true *Cuculus* are still far from being definitively understood. First, there is the deep-coloured bird, otherwise resembling C. *fugax* of India, described as *C. nisicolor*, Hodgson, in XII, 943, but which I renounced as a species in XIV, 204. A Malacca specimen in Lord A. Hay's collection, however, renders this again doubtful, and it will perhaps prove to be the veritable C. *fugax* of the Malay countries.† Then, I suspect that I have confounded three species under *C. micropterus*, Gould: viz.—1, C. *saturatus*, Hodgson, (XII, 942,) the supposed old birds, with upper-parts "uniform pure dark ashy," mentioned in my description of *C. micropterus*, in XI, 903; and these seem also to have the under-parts more closely barred than in true C. *micropterus*, and are altogether more complete miniatures of *C. canorus*, having the dimensions of *C. micropterus*. It inhabits the Himalaya. (This must be regarded as a doubtful species, however, as yet.)—2, *C. micropterus* verus, with a larger bill than in *C. canorus*, the under-parts more distantly barred, the upper-parts of a bronzed ash-brown, and not pure dark ashy, the irides pale dusky, and the orbits and feet light wax-yellow: the *Bokuttácko* of the natives. Inhabits India generally, but is more numerous in the hills.—3, *C. affinis*, A. Hay. Decidedly a good species, resembling *C. canorus* in size, and *C. micropterus* in form and colouring; length of wing eight inches and a half, or an inch more than in *C. micropterus*. Common in Malacca, and not improbably the Javanese variety of *C. canorus* of Dr. Horsfield's list. In addition to these, we have *C. sparverioides*, of the same minimum group as *C. fugax* and *C. nisicolor*; and also *C. canorus*, and the little *C. poliocephalus* (*v. himalayanus*, Vigors), pertaining to the same minimum group as the other species mentioned. I kept for about a year a pair of *C. canorus* (indicus), for a long while in the same cage: upon separating them, the

* *P. ceylonus*, Forst., (v. *P. neglectus*, Wagler,) is a species obtained in Ceylon by Lord A. Hay.

† Since writing the above, I have seen Mr. Jerdon's statement to the same effect, *Madr. Jour.* No. XXXI, 140. Mr. J. thinks that the common Indian species should be termed *C. Lathami*, Gray. I may add that his specimen of *C. Sonneratii* which he refers to, is perfectly identical in species with others from Malacca.

male soon began to utter his cry, *cuckoo*, generally of a morning and evening, ten or twenty times successively. The note was certainly harsher and less musical than that of the English bird, whether heard near or at a distance. It is very desirable that observers who have the opportunity, should strive to elucidate this very difficult little group of Cuckoos: it is probable that attention to their notes would essentially assist the study of them; and to naturalists located in the hilly parts of the country, we must chiefly look for conclusive information on the subject.

Simotes, nobis, *n. g.* Nearly allied to restricted *Cuculus*, but differing in the great breadth and depression of the beak, which considerably resembles that of *Casmarhynchus*, Tem., in general outline, being however flatter, especially underneath, where the rami are united for their terminal half or more, measuring from the gape; the nostrils being also formed as in other *Cuculi;* and the tip of the upper mandible entire, or unemarginated. Rest as in ordinary Cuckoos.

S. albivertex, nobis. Glossy black, with a broad white vertical medial band from the forehead to the occiput. Some white feathers also on the throat; and slight whitish tips to the outer tail-feathers. In immature plumage, the black is less intense, and the feathers are looser in texture; but there are no cross-bars. Bill black, paler below; and the interior of the mouth wholly yellow: legs dark brown, the tarsi half-feathered externally. Length about fourteen inches; of wing six and a half, or seven inches; and tail the same: bill to gape an inch and three-eighths, and half an inch broad at the nostrils: tarse seven-eighths of an inch. From Borneo (I have reason to believe); being sent with other birds from that island by Mr. Jerdon.

Taccocua affinis, nobis. Three species of this division are distinguished in Vol. XIV, p. 200; and subsequent observation has confirmed the propriety of the separation: but I find that the Sirkeer of the Rajmahl and Monghyr hills requires further to be distinguished from that of the Cawnpore district, higher up the Ganges in the WNW. direction. Dr. Stewart has favoured the Society with a Rajmahl specimen, which he justly remarks can be reconciled with neither of my descriptions. It combines the size of *T. sirkee* with the colouring of *T. infuscata;* but has the bill rather more abruptly curved over than in either, and coloured as in all its congeners. Wing six

inches; middle tail-feathers nine inches; and tarse an inch and a half. The deeper shade of colour of this bird distinguishes it from *T. sirkee*, to which it approximates most nearly, as also the decided brownish hue, concolourous with the back, of its tibial plumes, which in the other are highly rufescent; and a further marked distinction from *T. sirkee* consists in the hue of the pectoral region, which has no rufescent tinge in the specimen before me of *T. affinis*, while in *T. sirkee*, the ferruginous tinge of the abdomen suffuses the breast and throat, passing insensibly, with no decided line of demarcation. The abdominal plumage of this bird is of a less dark tinge than in *T. infuscata;* but the general colouring is much the same as in that species, from which the more slender legs and vertically deeper and more abruptly curved bill help to distinguish it. A further description is quite needless.

Centropus bicolor, Lesson; *C. celebensis*, probably of Temminck. A description of this species will be acceptable to British students of ornithology. Length of wing seven inches, of middle tail-feathers a foot, the outermost shorter by one-half; bill large, measuring to gape an inch and three-quarters in a straight line; long hind-claw seven-eighths of an inch. Colour of wings and tail, a peculiar dull vinous-ruddy, nearly the same on the flanks, vent, and lower tail-coverts, and with a ferruginous tinge on the rump and upper tail-coverts: head, neck, throat, and breast, dull isabelline, paler towards the throat, and browner on the crown and back; wing-coverts tinged with the same brown; and all passing backwards into the vinaceous hue of the great alars and tail. Bill blackish, with horny-white tip: legs apparently plumbeous. Plumage not very spinous, its general character and colouring being much that of the Sirkeers *(Taccocua)*. Inhabits the Celebes and the Moluccas.

Caprimulgidæ. The Indian and Malayan species of true *Caprimulgus* resolve into three different subgroups, each characterized by a particular style of marking: viz.—1, the *C. macrourus* group, comprising *C. albonotatus*, *C. macrourus*, *C. mahrattensis*, and *C. asiaticus*, which last differs from the three others in having unfeathered tarsi; these have the two outer tail-feathers on each side broadly tipped with white, which in the females is sullied, more or less reduced in quantity, and sometimes altogether wanting:—2, the *C. indicus* group, with a terminal or subterminal white spot on all but the middle pair of tail-feathers, rarely seen, and the white then much reduced in quantity, in the females;—probably

three species, at present not well determined (vide XIV, 208*) :—3, the *C. monticolus* group, of which the males have their two outer tail-feathers wholly white to near the tips : also apparently three species,—*C. monticolus*,—another allied to this in Scinde,—and *C. affinis*, Horsf., of the Malay countries, which last merely differs from *C. monticolus* in its smaller size, and the greater admixture of black on the upper-parts, more especially upon the crown. Length of wing six inches and a half,—that of *C. monticolus* being an inch more,—and the rest in proportion. The Scindian species (?) is figured in one of Sir A. Burnes' drawings, as mentioned in Vol. XIV, note to p. 547. It would appear to be still more uniformly coloured in the drawing than *C. monticolus*, of a light fulvescent-grey or sandy hue, with dark pencillings, but no scapulary pale streak nor white mark crossing the breast ; tail closed, but its middle feathers (which alone are seen in the drawing) have narrower cross lines than in *C. monticolus ;* the lower parts are represented somewhat paler than the upper, as is also the inner anterior margin of the wing (towards the body). Length of wing six inches and a quarter (not "nine inches and a quarter," as formerly misprinted). Should this be verified as a distinct species, it might bear the name *C. arenarius*, in allusion to the sandy soil which its colour would certainly denote that it frequented, and which is a very prevalent hue of the birds and other animals from Scinde, as M. Temminck has remarked of those from Egypt.†

Cypselidæ. Macropteryx coronatus ; Hirundo coronata, Tickell, *J. A. S.* II, 580. This has hitherto been undistinguished from *M. klecho* (Horsf.,) v. *longipennis*, (Tem.,) of the Malay countries, which in India is represented by the present species. The two are, however, obviously

* The true *C. indicus* extends its range to Malacca. It is not rare in the Calcutta Botanic Garden.—*C. monticolus* I lately observed in a patch of open jungle, surrounded by cultivated fields.—*C. pulcher*, A. Hay, *Madr. Journ.* No. XXXI, p. 161, = *Lyncornis Temminckii*, Gould. The Society has specimens of this bird from Malacca and Java.

† The Norwegian collection before referred to, contains a female of *C. europæus ;* and the resemblance of this to some specimens of *C. indicus* is extremely close: but the latter may always be distinguished by having the tarsi wholly feathered; by the abdominal region being much less rayed; and the males by having a white spot on four of the primaries, and upon the four outer tail-feathers on each side. The Society has also a Tenasserim specimen of undoubted *C. macrourus*, which very much resembles both *C. indicus* and *C. europæus ;* but may be distinguished from the latter by having the tarse wholly feathered, and by the white basal portion of its rictal bristles.

distinct upon comparison of specimens. *M. coronatus* has the tail much more deeply forked, and its outermost feathers are much more attenuated, being commonly prolonged two inches beyond the extremities of the next pair, and an inch and a half beyond the tips of the wings; whereas in *M. klecho*, the tail does not reach to the tips of the wings, and both alars and caudals are considerably broader than in the Indian species. The colour of the upper-parts is also much greyer in the latter, with but a faint tinge of green, instead of being brightly glossed with green; and the chin and sides of the throat of the male, besides the ear-coverts, are ferruginous. Colour greyish above, darker in the male, and glossed with purplish-green; the tertiaries more or less pale, but never albescent-grey as in *M. klecho:* lower-parts ashy, with a slight green gloss, and passing to white on the belly and lower tail-coverts. Crest as in the other species, and structure in all respects typical. Length eight inches, by thirteen in alar expanse; of wing six and a quarter; and of outermost tail-feather five and a quarter. Common in Central and Southern India, and most probably the only species met with in the country.

We have accordingly now four species of this beautiful genus, which appears to be peculiar to India and the Malay countries:—viz. *M. coronatus*,—*M. klecho*,—the very beautiful *M. comatus*, (Tem.,)—and *M. mystaceus*, (Lesson,) of which last I have seen neither figure nor description: the three others are in the Society's Museum.

Collocalia, G. R. Gray. Several specimens from the Nicobar Islands differ a little from *C. fuciphaga* of Java, in having more white underneath, the crown and back darker and tinged with blue more than green, and the wing somewhat longer, and straighter or less sickle-shaped. These characters obtain, both in the old and young; but separation of them seems hardly justifiable. In specimens recent, or preserved in spirit, the outer toe is as opposable as in other Swifts.*

* Since the first portion of the present paper was printed off, the Society has been favoured by Capt. Lewis with numerous specimens, of various classes, collected in the Nicobars, and comprising several interesting novelties. In the class of birds, the most remarkable discovery is that of a species of *Megapodius*, having the same extraordinary habits as Mr. Gould's *M. tumulus* of Australia: there is also a new *Macropygia*, more nearly resembling *M. phasianella* of Australia, than *M. amboinensis* of Java and the Moluccas; specimens of a new *Treron*, previously however brought from thence; also of a new Heron, which likewise inhabits Arracan; and some *Insessores* which I shall describe in their respective places in the present paper: but the following species can only be introduced here, instead of in p. 11, *passim*.

Corvidæ. The Indian true *Corvi*, though so particularly numerous in individuals, are referable to but three species (that I know of), and of these the Raven (*C. corax*, Lin.) is confined to the north-western Himalaya and its vicinity, being unknown at Darjeeling, and equally so

Todiramphus occipitalis nobis. Nearly allied to *T. collaris* and *T. sacer*, but especially distinguished by its strongly marked rufescent supercilia, which are continued quite round the occiput, forming a narrow band; beneath this is a broader black band, continued from the ear-coverts; and then a still broader fulvescent-white collar, as in the allied species: immediately bordering the last, the back is more infuscated than in the other, and the crown is likewise very dark, with some rufous lateral edges to the frontal feathers: under-parts white, a little tinged with fulvescent, but less so than in *T. sacer;* and the back, wings, and tail, are much, as in *T. collaris:* bill black above, and the tip of the lower mandible; the rest of the latter white: legs brownish. Length of wing four inches and a quarter; tail three inches; and bill to gape two and a quarter. Young rather smaller, with dusky margins to the pectoral feathers; and the beak shorter, with a white and hooked extreme tip. It may be remarked that in *T. collaris* and *T. sacer*, there is a much less developed white occipital band concealed beneath the surface of the feathers, but which shews conspicuously when the coronal plumes are a little raised.

The following two species of *Palæornis* appear also to be quite new.

P. caniceps, nobis. This is a very strongly marked species; but I can now merely indicate rather than describe it, as but one specimen was obtained (alive, from a native), which had lost its tail, and the wing-primaries were also mutilated. The size approaches that of *P. Alexandri*, which at once distinguishes it from all other known species of the group. General colour vivid yellowish-green, with the winglet and base of the secondaries indigo-blue, and the medial portion of the secondaries inclining to emerald-green; primaries black, the longest of them tinged with indigo towards their base: cap grey; a broad frontal band continued to the eyes, (this mark corresponding with that of *P. pondicerianus*, but very much broader,) and likewise a broad black moustache, with some black feathers also on the throat: above this moustache, between it and the frontal band, the feathers are of the same grey as those of the crown. The beak has the upper mandible coral-red, with a white tip; and the lower mandible black: the form of the bill is both narrower and less deep than in *P. Alexandri*, and angulates above towards the base.

P. erythrogenys, nobis. Allied to *P. malaccensis;* but readily distinguished by the blossom-red hue of the cheeks not being continued round the nape, and by its larger size, and differently shaped tail. Length of wing seven inches and a quarter, and of tail ten inches; the middle pair of tail-feathers exceeding the next by three inches and three-quarters. General colour bright-green, more yellowish below, and tinged in the male with hoary greyish-blue on the nape and back; winglet and primaries blue, the latter margined and broadly tipped with green; middle tail-feathers also blue, margined with green for the basal half, and the rest of the tail-feathers chiefly or wholly green above, and all of them dull yellow below; the cap is not of a distinct emerald-green, as in *P. malaccensis*, but uniformly coloured with the back (save where the latter is tinged with grey in the male); there is a well defined narrowish black streak from the nostril to the eye, and the same black moustache as in *P. malaccensis;* and the lores, cheeks, and ear-coverts, (only,) are blossom-red. Upper mandible coral-red, with a white tip; the lower one black. The female merely differs

throughout India generally.* The common Indian Black Crow (*C. culminatus*, Sykes,† is often erroneously termed 'Raven' by Europeans, and as often confounded with the European *C. corone:* it is eminently a "Carrion Crow" in its habits, and especially frequents the vicinity of the great rivers, being less confined than the next species to the immediate neighbourhood of human habitations. The common Indian Crow (*C. splendens*, Vieillot,) has sometimes been mistaken for the Jackdaw (*C. monedula*), and sometimes for the Hooded Crow (*C. cornix*), of Europe; as in the 'Proceedings of the Zoological Society' for 1839, p. 163, where the specification of the "Rook" and "Carrion Crow" both refer, as I believe, to *C. culminatus*, and the Raven is also there mentioned as an inhabitant of Assam (a statement which it would be satisfactory to have verified). *C. culminatus* is the Common Crow of Arracan; the *C. splendens* being only known in the northern part of that province, as about Akyab, (according to Capt. Phayre,)—and to the southward, upon the eastern side of the Bay of Bengal, I am told that it is the species of the Tenasserim Provinces. Proceeding further southward, a very distinct species of black Crow (*C. macrorhynchos*, Vieillot,) abounds towards the Straits of Malacca, which is probably the Sumatran *C. corax* apud Raffles; and the Javanese *C. enca*, (Horsf.), is distinct again, as I am informed. I have also been told that *C. macrorhynchos* is a much shyer bird than *C. culminatus*, with a very different *caw;* and the elongation of the beak, remarkable in *C. macrorhynchos*, would seem to be still further carried out in *C. enca*, insomuch that the latter species was ranged by Dr. Horsfield as a Chough (*Fregilus*). Professor Temminck states that the European Raven, Carrion Crow, Hooded Crow, and

in having the crown, nape, and back, quite uniform green, without the hoary-blue tinge conspicuous in the male; and the upper mandible is more or less black, like the lower one.

In *P. pondicerianus*, the upper mandible of the female is usually black, but often more or less mingled with red; that of the male being always bright coral-red: and the same is probably the case with both the foregoing new species, as well as with *P. malaccensis*. The young female of *P. pondicerianus* has recently been described by Mr. Fraser, by the name *P. modestus*. This latter species is common in Bengal, Assam, and along the eastern side of the Bay to the Malay countries generally; but is very doubtful as an inhabitant of Pondicherry, or any other part of the Indian Peninsula.

* It is common at Ferozepore, at least during the cold season.

† In the *Dict. Class. d' Hist. Nat.*, this bird is erroneously referred to *C. major* of Levaillant.

Rook, occur in Japan*; but Mr. Gould has distinguished the so called "Rook" of *Chusan* by the name *C. pastinator* (*P. Z. S.* 1845, p. 1); and another species inhabiting China and Chinese Tartary, is the *C. dauricus*, Pallas, which should be looked for by our trans-Himalayan travellers. Mr. Gould has also recently distinguished the common Australian black Crow by the name *C. coronoides*.

The Red-legged Chough (*Fregilus graculus*,) and Alpine Chocard (*Pyrrhocorax alpinus*,) are both well known tenants of the bare Himalayan crags, and appear to be identical in species with their European brethren. Captain Hutton mentions the former as a winter visitant in Afghanistan; and also that the Raven (*Corvus corax*,) and the Rook (*C. frugilegus*,) occur in that country, the former in summer, the latter in winter.†

Of the Nutcrackers (*Nucifraga*,) but three species have been ascertained; *N. hemispila* of the Himalaya, *N. caryocatactes* of Europe, and *N. columbianus* of North America (the *Corvus columbianus*, Wilson, first properly classified by the Prince of Canino). These birds are peculiar to the pine-forests, and the Himalayan species appears to be particularly abundant.

Magpies. *Pica*, Ray. The only species of true black and white Magpie proper to Indian Zoology, is the *P. bottanensis*, Ad. Deless., v. *megaloptera*, nobis, *J. A. S.*, XI, 193. It is remarkable for its great size, very large wings, and tail of moderate length. Inhabits the more eastern Himalaya.

The other species of this genus, which I at present know of, are as follow:—

2. *P. media*, nobis, *J. A. S.*, XIII, 393. The next in point of size. From the Chilian Andes.

3. *P. caudata*, Ray. The common European Magpie. This appears

* Some of the Japanese birds referred by M. Temminck to European species, are certainly quite distinct; *e. g.*, the Jay, which differs from *Garrulus glandarius* in having the space between the eye and moustache filled up with black (I think the same as in the Syrian Jay, *G. atricapillus*, Geoff., which has additionally a black cap); also the Japanese Robin, which has a rufous tail; and the Bullfinch, of which the male has a pale abdomen and lower breast, and both sexes are without the red mark on the outer margin of the smallest tertiary, which is constant in the European species, and in *P. nipalensis* becomes deep shining crimson; the female is also of a different shade of colour from that of its European congener.

† *Calcutta Journ. Nat. Hist.* I, 558.

to be the species of Afghanistan, though I have never had the opportunity of comparing an Afghan with an European specimen. One I examined some time ago, from that country, had the wing seven inches and three-quarters long; tail eleven inches; bill to frontal feathers an inch and a quarter; and tarse an inch and three-quarters. Mr. Yarrell gives the wing of the English bird as seven inches and a quarter, and Mr. Jenyns as seven inches and eight lines: that of a British specimen in the Society's Museum (probably a female,) has it but seven inches. I fully believe that the Afghan Magpie is identical with the British species.* It has also been generally considered identical with that of China and Japan, and with the ordinary species of Western North America. Mr. Gould, however, has recently described the Chinese Magpie as distinct; but it would seem that the European is one of three species inhabiting the North American continent, all different from *P. media* of South America. For the identity of the North American species found westward of the Rocky Mountains, with that of Europe, we have the authority of Mr. Swainson; though he also regards the Chinese Magpie as the same: remarking—" We have been able to compare English and Arctic [American] specimens, with one from the interior of China, and we cannot perceive the slightest difference whatever to build even the character of a variety, much less of a species. The tails of the Arctic specimens are very beautiful." *Fauna Americana-borealis*, II, 292. Perhaps, therefore, there may be two species of Magpie in China, one of them identical with that of Europe.

4. *P. sericea*, Gould, *Proc. Zool. Soc.* 1845, p. 2. From Amoy. " Closely allied to the common Magpie, but differs in the wings, being blue instead of green, in the rather less extent of the white, and in having a longer bill and much longer tarsus; the latter measuring two inches and a quarter."

5. *P. hudsonia*, (Sabine), 'Appendix' to the Narrative of Franklin's first Polar Expedition, p. 671. The Magpie of Hudson's Bay. " Of less size in all its parts than the European Magpie, except in its tail, which exceeds that of its congener in length; but the most remarkable and obvious difference consists in a loose tuft of greyish and white feathers on the back: * * * tail from eleven and a half to twelve inches long."

* A Norwegian specimen just arrived, has the wing fully eight inches, and the rest as in the Afghan specimen above noticed.

Most of the Magpies have more or less greyish over the rump, and the absence of this is one distinguishing character of *F. bottanensis.*

6. *P. Nuttalli*, Audubon, 'Ornithological Biography.' This species is at once known by its yellow bill. From Western North America.

7. *P.*————? The small species noticed in *J. A. S.* XIII, 393, which is considerably inferior in size to the European Magpie, and has the tail glossed as in *P. Nuttalli.* I certainly do not think that it could have been *P. hudsonia*, and am unaware of its habitat. The only specimen I have seen was an unmounted skin in the collection of the Zoological Society.

Psilorhinus, Ruppell. The Blue Magpies. Mr. G. R. Gray, in his recent enumeration of the species of this group, gives only four; three of these being American, and the fourth Asiatic. I find, however, that several nearly allied Asiatic species, as many as five apparently, require to be discriminated.

1. *Ps. sinensis ; Cuculus sinensis*, Lin., founded on the *San-hia* of Buffon: *Corvus erythrorhynchos*, Latham, founded on *le Geai de la Chine à bec rouge* of Buffon; also *Coracias melanocephala*, Latham. This Chinese bird, according to Levaillant's figure and description, has too much white upon its *crown* for the common Himalayan species, figured as *Pica erythrorhyncha* in Gould's 'Century'; and as the other oriental species of this group differ especially in this particular, and as Levaillant examined "at least six specimens" of his *Pie Bleue*, I think we may confide in his accuracy as regards the marking in question. He expressly states that the forehead, cheeks, throat, and the front and sides of the neck, are of a decided black; *the whole top of the head* is covered with bluish-grey feathers, which are long and broad, and form a kind of pendent crest: but he is doubtless wrong in correcting Buffon respecting the colouring of the beak, the original bright coral-red of which had faded in the specimens which he saw and drew from.

2. *Ps. occipitalis*, nobis: *Pica erythrorhyncha*, apud Vigors and Gould. Bill coral-red; a large oval white patch confined to the occiput, and pointed posteriorly, with terminal white spots on the hinder coronal feathers immediately impending it. The common species of Nepal and to the NW., as at Mussoorie, &c.

3. *Ps. magnirostris*, nobis. Resembles the last, but is still more richly coloured, especially on the wings; the bill much larger than in the

others; and a *great* naked space surrounding the eyes; the legs and claws also are large and strong. Length of bill to gape, an inch and three-quarters, that of *Ps. occipitalis* barely exceeding an inch and a half; and its depth and strength also considerably greater. Inhabits the Ya-ma-dong mountains, separating Arracan from Pegu.

4. *Ps. albicapillus*, nobis. This is evidently distinct, though I only know it in its immature garb, which differs from that of *Ps. occipitalis* in having the entire cap white; the extreme frontal feathers, and those impending the nostrils, being alone black. From the neighbourhood of Simla. The Chinese species would seem to be intermediate to this and *Ps. occipitalis*.*

5. *Ps. flavirostris*, nobis. General plumage of a *much* duller colour than in the others; the bill of the recent specimen bright yellow, instead of deep coral-red; and the white of the occiput reduced to a narrowish *transverse* band, with a broad collar of black below it, surrounding the hind-neck, and never any white tips to the feathers immediately above it; legs and toes small and slender. This is the most distinct from the rest of all the species here indicated; and it is the first which I distinguished from *Ps. occipitalis*, though I waited to obtain the young of the latter before attempting to describe it as a separate race. It is the common species of Darjeeling, and the only one I have seen from that locality; but I have now seen many specimens from thence, all true to their distinctive characters. Upon shewing the three Himalayan races to Mr. Hodgson, *(Ps. albicapillus, Ps. occipitalis*, and *Ps. flavirostris,)* that gentleman informed me that he had long ago distinguished them, and that he had exhibited coloured drawings of the heads of each at a meeting of the Zoological Society in London. It is probable that naturalists in Europe will not at once be prepared to accept the distinctions that have been here indicated, but I am content to await their future decree, when they shall have obtained the requisite data to judge from; as in the matter also of the Hoonuman Monkeys, (XIII, 470,) concerning which Mr. Gray, I perceive, regards as varieties merely of the same species, the very distinct

* Lord A. Hay writes me word, that he has recently obtained this white-capped species at Simla: it being the only specimen of the genus which his lordship did there meet with; though *Ps. occipitalis* abounds at Mussoorie, and as Capt. Hutton informs me, is very terrene in its habits, feeding almost entirely on the ground.

races which I still insist upon are different species, if any meaning is to be attached to the latter term. With sufficiently perfect specimens to form an opinion upon, I own I cannot conceive how any other conclusion can be arrived at, in the latter instance, than that upon which Mr. Elliot and myself are agreed.

Cissa, Boie: *Corapica*, Lesson: *Chlorisoma*, Swainson. Here, again, I think that three species require to be distinguished. 1, *Cissa sinensis*, (Gm.), founded on Buffon's plate, of which a copy has been obligingly sent me by Mr. Jerdon. This would seem to be distinguished from *C. venatorius*, (Gray,) of the Himalaya, Assam, Sylhet, and the Tenasserim Provinces, by having much less black behind the eye; and it would appear also to have the wing entirely blackish, except the tips of the tertiaries which are white: and as the upper-parts are represented more green than blue, the inference is, that the hue of Buffon's specimen had not faded.—2, *C. venatorius*, (Gray);—and 3, *C. thalassina*, (Tem.)—*C. venatorius*, when newly moulted, is of a lovely green, with the wings bright sanguine-red; and the bill and legs deep coral: but whether alive, (wild, or in confinement,) or mounted as a stuffed specimen and exposed to the light, the green soon changes to verdigris-blue, and the red of the wings to dull ashy: at this time of writing, a specimen in the Museum which was of the finest green and red when set up, has completely faded on the side exposed to a moderate light, and retained its pristine colours on the other side; and I am obliged to keep another specimen protected from the light, to shew the great beauty of the species in its unchanged *verdure*. I have had many of these birds alive, which combine in their manners the traits of the Jay and Shrike; they are very amusing birds, soon become tame and quite fearless, are very imitative, sing lustily a loud and screeching strain of their own, with much gesticulation, and are highly carnivorous in their appetite. The Shrike-like habit, in confinement, of placing a bit of food in each interval betwixt the bars of their prison, is in no species more strongly exemplified then in *Cissa venatorius*.

The genera *Psilorhinus* and *Cissa*, with *Cyanacorax* of South America, form a little group by themselves*; and I consider that Mr. Strickland was quite justified in separating from the last the blue Jays of

* *Corvus cyanus*, Pallas, exemplifies another form that should rank with them.

North America, which constitute his *Cyanocitta*, *An. and Mag. Nat. Hist.* 1845, p. 260; but as *Corvus cristatus*, Lin., is the type of Mr. Swainson's *Cyanurus*, I conceive that this must take precedence of *Cyanocitta*, Strickland.

Crypsirina, Vieillot: *Phrenotrix*, Horsfield: *Dendrocitta*, Gould. Some attempt was made at collating the Indian species of this group of Magpies, in XII, 932. I now add another species, and shall endeavour to assort the synonymes.

1. *Cr. rufa*; *Corvus rufus*, Scopoli, Lath., founded on *la Pie rousse de la Chine* of Sonnerat, badly figured by Levaillant: also *Coracias vagabunda*, Latham; and perhaps *Pica rufiventris*, Vieillot, Shaw's Zoology, XIV, 73. India generally.

2. *Cr. pallida*, nobis. Distinguished from the last by its considerably smaller size and paler colouring. Length about fifteen inches, of which the middle tail-feathers measure eight and three-quarters, the outermost four inches and five-eighths less; wing five inches and a half; bill to gape nearly an inch and a quarter; tarse an inch and one-eighth. Plumage as in *Cr. rufa*, but altogether much paler: the back and scapularies isabelline with a shade of dusky, but devoid of any decided rufous tinge; rump paler, the belly and lower tail-coverts pure isabelline, or buffy cream-colour. The hue of the lower-parts approaches that of the young of *Cr. rufa*; but the much firmer structure of the plumage, indicative of maturity, at once distinguishes it from the latter. Hab. Western Himalaya. This species, and the young of *Psilorhinus albicapillus*, were obtained in a small collection from that part, purchased in Calcutta by Prof. Behn, of Kiel University, who first called my attention to the distinctness of each of them from its near congener, and kindly permitted me to draw up descriptions for publication.*

3. *Cr. sinensis*.†—4. *Cr. leucogastra*.—5. *Cr. rufigastra (non vidi)*, vide XII, 933.—And 6. the *Cr. altirostris* will, I suspect, prove to be the same as *Cr. frontalis*, from the description of which it deviates only in

* Both would seem to be rare. Capt. Hutton never met with *Ps. albicapillus*, during the long time that he has collected in the W. Himalaya; and Capt. Boys has only once obtained *Cr. pallida*, many years ago.

† Very doubtful as an inhabitant of Southern India. Jerdon.

having the *vertex* black like the forehead, not grey like the occiput.* Hab. Darjeeling, and the mountains of Assam. This last species has the beak compressed so as to resemble that of a *Callæas*, Forster (*v. Glaucopis*, Gm.), to which genus M. Temminck has referred certain other *Crypsirinæ*, as also the *Temnorus leucopterus*, (Tem.), Lesson.

Of the two Himalayan species of *Garrulus*, or true Jay, Mr. G. R. Gray arranges the synonymes as follow:—1, *G. ornatus*, Gray, Hardwicke's *Ill. Ind. Zool.; G. bispecularis*, Vigors and Gould.—2, *G. gularis*, Gray, Hardw., *Ill. Ind. Zool.; G. lanceolatus*, Vigors and Gould; and *G. Vigorsii*, Gray, Hardw., *Ill. Ind. Zool.*—The *G. striatus*, Vigors and Gould, though extremely Jay-like in form, pertains to a different series of birds; and Mr. G. R. Gray ranges it under *Turnagra* of Lesson, which he considers synonymous with his own *Keropia*. *G. gularis* is the great Kemaon Shrike of M'Clelland's 'Geology, &c. of Kemaon,' p. 244.

After the *Corvidæ*, might be arranged the *Paradiseidæ;* to which family I suspect the curious Australian genera *Ptilinorhynchus* and *Chlamidera* should be referred. Then the great family of *Sturnidæ*, commencing with an Australian sub-family, which comprises the genera *Strepera*, *Gymnorhina*, *Cracticus*, *Vanga*, *Neomorpha*, and *Grallina*. Then the great series of Old World *Sturnidæ*, forming the sub-family *Sturninæ;* from which perhaps that of *Lamprotorninæ* might be separated, though it is not easy to trace the line of demarcation of this group. I described apart the two Indian *Graculæ* in XII, 178 *(bis);* but Lord Arthur Hay has since distinguished the Malayan Grackle from that of Bengal, &c., which necessitates a revision of the synonymes of all three species.

1. *Gr. religiosa*, Lin. (apud Lord A. Hay): *Gr. indica*, Cuvier; *Pastor musicus*, Tem.; *Mainatus javanus*, Lesson, apud Jerdon, *J. A. S.* XII. 178 *(bis); Lesser Mina* of Edwards, quoted by Latham and Gmelin as *Gr. religiosa*, L., var. *A.* (the *Greater Mina* of Edwards being quoted by them as var. *B.*). Inhabits Southern India.

2. *Gr. javanensis*, Osbeck: *Greater Mina* of Edwards; and no doubt *Sturnus indicus Bontii* of Ray and Willughby; probably also *Mainatus major*, Brisson. This, the common Malayan Grackle, differs

* Dr. McClelland's coloured drawing of *Cr. frontalis* accords with the description: having the forehead broadly black, passing laterally over each eye to beneath the vertex, as in *Cr. sinensis*, and leaving the vertex greyish-white, continuous with that of the occiput and nape; whereas in *Cr. altirostris*, the black anterior portion comprehends the vertex, as in *Cr. leucogastra*.

from that of Nepal, Bengal, Assam, Arracan, and the Tenasserim Provinces, (the common Hill Mynah of the Calcutta dealers,) in its rather larger size, as regards linear dimensions, but much more robust conformation, with much larger occipital lappets, &c. The closed beak measures eleven-sixteenths of an inch in vertical depth, whereas in the Bengal species it does not commonly attain to half an inch; the feet are also much thicker and stronger, with far more powerful toes and claws, the tarse measuring an inch and three-eighths, and middle toe and claw nearly one and seven-eighths; while in the Bengal species the former measurement is one and a quarter, or less, and the latter about one and five-eighths; wing respectively seven inches, and six and a half or less; and tail the same in both. All the specimens I have seen have been from Malacca*: of a number received from the Tenasserim Province of Yè, not one could be mistaken for this Malayan bird. Edwards' statement that his "Greater Minor, or Mina, for bigness, equals a Jackdaw or Magpie," is intelligible of the present species, but scarcely so of the next.

3. *Gr. intermedia*, A. Hay, probably the *Mainate* of Buffon, and perhaps *Mainatus sumatranus*, Lesson: *Gr. religiosa*, apud nos, *J. A. S.* XII, 178 *(bis)*. The range of this species has already been indicated. It is always less robust, with a less powerful beak, and smaller occipital lappets, than in *Gr. javanensis*.†

Ampeliceps coronatus, nobis, *J. A. S.* XI, 194. In XII, 985, I indicated a grand defect in the specimen originally described, and noticed the near affinity of this genus to the preceding one. Our indefatigable contributor Mr. Barbe has now supplied us with fine specimens of both sexes, of which the beak essentially resembles that of *Gracula*, but is smaller and shorter, and of a dark greenish colour with yellowish tip and along the tomiæ (in the scarcely dry specimens). There is a tolerably large naked space surrounding the eye, which appears to have been yellow; but the orbits are black; and there are no short velvety feathers on the sinciput, or nude skin beneath and occipital lappets,

* It likewise inhabits the Nicobar Islands and Penang. In this species, the occipital lappets are generally united at base, but sometimes only approximated; in *Gr. intermedia* they are smaller and more distant apart.

† In the 'Madras Journal', No. XXXI, p. 151 *et seq.*, Lord A. Hay terms these three birds *Gr. religiosa*, *javana*, and *indica* (nec *intermedia*).

as in *Gracula;* though in other respects the form is barely separable. The presumed female differs from the male in having less yellow on the crown and throat: in the male, the whole crown, lores, throat, extending laterally to the naked skin beneath the eyes, are bright yellow; whereas in the females, the lores, and a considerable space both above and below the nude orbital skin, are black. The rest of the plumage is exactly as in the *Graculæ*, with yellow instead of white barring the primaries. Inhabits the Tenasserim Provinces. This is an exceedingly pretty Mynah, and I doubt not would be much esteemed as a cage favourite.

The other Mynahs were treated of in XIII, 361 *et seq.:* and the common arboreal Bengal species there referred, and also by authors generally, to *Acridotheres cristatellus*, (L.), of China, proves to be distinct, and apparently referable to *Pastor griseus*, Horsf., of Java, which that naturalist imagined to be the same as the *cristatellus*. To Lord Arthur Hay, I am indebted for the loan of a Chinese specimen of true *Acr. cristatellus*, the young of which I described as *Acr. fuliginosus* in XIII, 362. I now supply descriptions of each, which will suffice to shew their differences.

Acr. cristatellus, (Lin.); figured by Edwards, pl. XIX: *Acr. fuliginosus*, nobis (the young). Length about eleven inches: of wing five inches and a half; and tail three and three-eighths; bill to gape an inch and three-eighths; and tarsi an inch and a half. Colour throughout greyish-black, with a bronzed gloss on the upper parts; tail-feathers, except the middle pair, and the lower tail-coverts, tipped with white; base of the primaries, and greater portion of their coverts, also white, forming a broad band on the under surface of the wing; erect frontal feathers above three-quarters of an inch high, in the specimen under examination: the bill appears to have been yellow, with the base of the lower mandible carrot-red; and the legs are also yellow. The young is browner, with the white patch at the base of the primaries much more developed: but there is no white at the tip of the tail, or of its under-coverts; and the frontal crest is barely indicated.

Acr. griseus, (Horsfield): *Pastor cristalloides*, Hodgson. Smaller and paler, with the under-parts of a much lighter ash-colour, paling and in some specimens passing to vinaceous-white on the abdomen, and always to pure white on the lower tail-coverts: the tail-feathers are

much more deeply tipped with white than in *Acr. cristatellus;* there is a similar white wing-patch; and the frontal crest is commonly under half an inch in height. Terminal half of the bill orange-yellow, the remainder with the inside of the mouth deep black: legs orange-yellow: irides bright yellow. Length nine inches and a half, by fifteen inches; wing five inches; and tail three inches: bill to gape an inch and a quarter; and tarse one and three-eighths. The young are browner than those of *Acr. cristatellus,* and are at once distinguished by having the throat whitish, more or less pure, and the middle of the belly and lower tail-coverts white. This bird takes much the same range as *Gracula intermedia,* only that it is not confined like that species to the hill country: it is common along the eastern coast of the Bay of Bengal, to the Tenasserim Provinces at least; and it appears to be Dr. Horsfield's Javanese *Pastor griseus.**

Also very closely allied to the latter, is the *Acr. fuscus* of the Indian Peninsula, which is distinguished from *Acr. griseus* by its smaller size, browner colouring, white abdominal region, and greyish-white irides. Wing four inches and three-quarters.

The *Acr. ginginianus,* one of the commonest birds in the vicinity of the great rivers of Upper India which have high banks, does not occur so low down the Hoogly as Calcutta, but abounds as soon as the banks of the Hoogly become of sufficient height for it to burrow in with tolerable security; and on ascending the river makes its appearance soon after the common Indian Bank Swallow (*Hirundo sinensis,* Gray). Mr. Hodgson well named this species *Pastor gregicolus,* for it constantly associates with the herds of cattle on open pastures; and populous communities of them perforate deep holes in the perpendicular banks of rivers, in which they repose and breed. This bird is the *Turdus suratensis,* var. A, of Latham; his *T. suratensis* being no other then *Pastor roseus:* it is also the *Gung-Salik* ('Ganges Mynah') of the Bengalees, and should be compared with the African *Martin gris-de-fer* of Levaillant, upon which is founded *Gracula grisea,* Daudin, and *Cossyphus griseus* of Dumeril.

Sturnia erythropygia, nobis, *n. s.* This beautiful species would seem to be nearly allied to the Javanese *St. tricolor,* (Horsfield), v. *melanoptera,*

* I think that I have seen it from Malacca, but am not quite sure. A gentleman from Java considered it to be, decidedly, the species common in that island.

(Wagler). Head, neck, and lower-parts, pure silky-white; the wings wholly shining black; the scapularies and interscapularies pale satiny-brown; the rump, vent, upper and lower tail-coverts, deep ferruginous; and the tail black, with more than half of its outermost feather ferruginous, and the rest successively less deeply tipped with ferruginous to the middle pair: bill yellow, with the base of the lower mandible livid blue; and legs (apparently) orpiment-yellow. Length approaching to nine inches; of wing four inches and a quarter to four and a half; and tail three and a quarter to three and a half; bill to gape nearly an inch and a quarter; and tarse an inch. From the Nicobar Islands.

To the same genus, *Sturnia* of Lesson, must be referred the *Pastor malayensis*, Eyton, *P. Z. S.* 1839, p. 103; but as an aberrant species, with the bill short, and approximating that of *Calornis*,—more slender, however, than in that genus, and having the outline of its upper mandible less curved. Length about seven inches and a quarter, of wing four and one-eighth, and tail two and a quarter; bill to gape seven-eighths, and tarse an inch. Head, neck, and under-parts, of a silky subdued whitish or drab-white; whiter on the belly and lower tail-coverts, and tinged with purplish on the crown and nape: an occipital spot, the interscapularies, proximate scapularies, shoulder of the wing, and rump, black with a rich purple shine; outer scapularies, and the second range of wing-coverts, subdued white; as also an elongated central terminal spot on some of the greater wing-coverts, and more or less developed on the tips of the tertiaries; rest of the wing, and the tail, glossy green-black, with some admixture of purple; the secondaries shaped at tip and margined with deep black, as in *Sturnus vulgaris;* the outermost tail-feather having a whitish-brown exterior web, and most of the upper tail-coverts are of the same dull pale brown colour: bill dusky, whitish towards base of lower mandible; and the legs apparently plumbeous. What appear to be the females have a large triangular drab-coloured spot at the base of the secondaries, and the exterior half of the outer webs of the primaries are of the same hue; a trace of this appears also on the wings of some (presumed) males. The young are brown above, paler beneath, passing to whitish on the belly and lower tail-coverts; the back and scapularies are darkest; and there is a blackish occipital spot in place of the shining black spot of the adult: the wings are marked nearly as in the adult, but are much less bright; the secondaries brown

with pale outer margin; and the bill pale, with dusky on its terminal half. Common at Malacca.*

Calornis affinis, A. Hay. This differs from the Malayan *C. cantor* in its larger size. Wing four inches to four and a quarter, instead of three and a half to three and five-eighths: and tail three inches to three and a quarter, instead of two inches and a half; tarse seven-eighths, instead of three-quarters of an inch; and bill about the same in both: plumage of the two species absolutely similar at all ages, and glossed as brightly in fine specimens of either. *C. affinis* inhabits Tipperah, Arracan, Tenasserim (?), and the Nicobar Islands: while *C. cantor* is common at Malacca.

Pastor temporalis, (Tem., noticed in Vol. XIII, note to p. 366,) proves to be from China, and will rank in *Sturnopastor*, Hodgson. Lord Arthur Hay has favoured the Society with a specimen from Hong Kong: and his lordship first called my attention to the distinction of size between *Calornis cantor* and *C. affinis*. Here, too, may be noticed that I no longer regard *Sturnus indicus*, Hodg., as distinct from *St. vulgaris*.

Fringillidæ, sub-fam. *Estreldinæ*. In Vol. XIII, 949, I endeavoured to give a list of the Indian Mooniahs, &c., which was partly corrected in XIV, 554. I now offer a revised list of them.

1. *A. malacca*, (Lin.): *Coccothraustes javensis*, Brisson: *White-breasted Indian Sparrow* of Edwards. Hab. Peninsular India.

2. *A. sinensis*: *Coccothraustes sinensis*, Brisson: *Loxia malacca*, var. *A*, Latham; *Munia rubronigra*, Hodgson; *Lonchura melanocephala*, Horsfield: *Chinese Sparrow* of Edwards. Bengal, Nepal, Assam, Arracan.

3. *A. maja*: *Loxia maja*, (nec *Fringilla maja*,) Lin.: *Loxia leucocephala*, Raffles. As a rare Bengal species, this rests on the authority of a most correct observer, Mr. Frith. It is common in the Malay countries.

4. *A. pectoralis*, Jerdon. South India.

5. *A. molucca*, (L.): *Munia acuticauda*, Hodgson. Nepal, Malacca.

6. *A. striata*, (L.): *Fringilla leuconota*, Tem. South India, Arracan. Such at least is the range of the Indian species, which Mr. Jerdon thinks is distinct from its Malayan representative: the latter I have not seen; but, if different, it will retain the name and synonyme here applied to the Indian bird.

* *Pastor chinensis*, (L.), as figured in the *Pl. Enl.*, to judge from a copy of that figure sent me by Mr. Jerdon, would seem to be an aberrant species of *Sturnia*, having some affinity for *St. sericea* and *St. malayensis*.

7. *A. undulata*, (Lath.): also *Loxia punctularia*, var. A, Lath.; *Munia lineoventer*, Hodgson. India generally. From the nearly allied Malayan species—*L. punctularia*, (L.), v. *nisoria*, (Tem.),—this Indian bird is distinguished by having its upper tail-coverts ochreous, and tail tinged with the same; whereas *A. punctularia* (vera) has the tail ashy, and its coverts barred dusky-ash and white. Mr. Jerdon first informed me of their distinctness.

8. *A. malabarica*, (L.): *Lonchura cheet*, Sykes; *Loxia bicolor*, Tickell (nec Latham). India generally; common in Bengal. *L. malabarica* apud Latham, is the young of *A. sinensis;* and his *L. bicolor* is evidently the immature plumage of some other species.

The *Estrelda formosa*, (Lath,) as I am informed by Capt. Wroughton, occurs in immense flocks in the high lands where the Nerbudda takes its rise.

*Fringillidæ.** Several of the species described in my 'Synopsis of Indian *Fringillidæ,' J. A. S.* XIII, 944 *et seq.* (1844), have since been described by Mr. Hodgson in the 'Proceedings of the Zoological Society' for April, 1845. *Pyrrhuloides epauletta* is there termed *Pyrrhoplectes epauletta.* The generic name *Propyrrhula* is transferred to *Pyrrhospiza* of my synopsis, and *Pr. punicea* described as *Pr. rubeculoides. Carpodacus (v. Erythrospiza*, Bonap.) *erythrinus*, is designated *Pyrrholinota roseata;* and *C. rodochrous* and *C. rodopeplus* are styled *Propasser.*—I lately saw fine specimens of *Pyrrhospiza punicea* from the Boorendoo Pass; and with them a new species of restricted *Fringilla*, from Huttoo mountain, near Simla, in the collection of Capt. Thomas, 39th Regiment Bengal Native Infantry. *Pyrrhospiza* is but slightly removed from typical *Fringilla*, which group it connects with the various roseate Finches; and will most probably contain the *Fr. sanguinea* of Gould: and another nearly allied form is *Leucosticte*, Swainson, figured in the *Fauna Americana-borealis*, to which may seemingly be referred Mr. Hodgson's

* It may be remarked here that *Passer montanus* is the common Sparrow of Java, from which island it was long ago mentioned to have been received, in the *Dict. Class.* I had before traced it to Arracan and Malacca, and suggested its being the Siamese Sparrow of Crawfurd. It is common in China and Japan, also in the Himalaya, and in Afghanistan, extending westward to the British Islands.

Of the common Indian Sparrow (*P. indicus* of Jardine and Selby, and 'Black-breasted Finch' of Latham), I find that some males, especially in breeding aspect of plumage, are fully as rufous as represented, and the under-parts of both sexes are always whitish: but the size accords with that of the ordinary European Sparrow, to which it is so very closely allied.

Fringillauda; and his *Procarduelis* is also not far removed. A new species of *Leucosticte* has lately been figured by Mr. Gould, in the 'Zoology of the Voyage of the Sulphur,' by the hybrid name *griseogenys*, under which it is described in *P. Z. S.* 1843, p. 104. The new Finch may be thus described—

Fringilla erythrophrys, nobis. Length of male about seven inches; wing three and seven-eighths; and tail two and five-eighths; bill to gape above five-eighths, and tarse three-quarters of an inch. Female rather smaller. Colour of male ruddy-brown above, darkest on the tail-coverts; below dull buffy-red, mingled with weak crimson on the chin and throat, also on the forehead, and this red passing as a broad streak over the eye, and becoming deeper crimson posteriorly: fine specimens in summer dress have probably the whole under-parts, with the forehead and eye-streak, crimson, and the back deeply tinged with the same: the crown, ear-coverts, wings and tail, are black, not very deep, with the three outer tail-feathers chiefly white towards the tip, and with dark outer webs to near the end; and the other tail-feathers are white-tipped, except the middle pair: wings marked with white, the greater coverts of the primaries having their terminal half white, those of the secondaries broadly tipped with the same, as are also the outer webs of the tertiaries, and (successively more slightly) those of the secondaries and primaries. Bill yellow, and legs light-coloured. The female is plain brown, paler and tinged with yellowish below, darker and a little tinged with yellowish on the crown, and having a bright saffron eye-streak, and duller saffron-coloured or ochreous forehead; the wings and tail are marked as in the male, but the white is less developed; and the back is yellowish-brown. This is a true restricted *Fringilla*, of the form of *Fr. montifringilla*, &c.; but having obvious affinities for the red Finches (*Carpodacus*, &c.), and shewing also a marked relationship for *Coccothraustes*, and even for *Carduelis*.*

* Lord A. Hay informs me of what he suspects to be a new Finch, and terms *Fringilla rubrifrons*, procured during his sojourn at Simla. "Size very small; and colour olive-green, striate and mingled with dirty yellow: forehead red." The particular subdivision of Finches is not stated.

There is also a very curious-looking, diminutive, Finch-like species, figured among Dr. McClelland's drawings of Assamese birds. The size and plumage are very *Wren*-like; with a bill approaching in form that of a Chaffinch: colouring deep isabelline or buff, with dusky rays on the wings and tail, and the primaries edged with white. The immediate affinities are by no means obvious.

Emberiza cia, Lin. (mentioned in Royle's list): *E. barbata*, Scopoli; *E. lotharingica*, Gm. Length six inches and a half: of wing three inches; and tail two and three-quarters. Upper-parts rufescent-brown, brighter on the tail-coverts, and marked, except on the latter, with a black central streak to each feather: crown dusky, with some inconspicuous rufous edges to the feathers, a pale medial coronal line, and a broad whitish supercilium; a black line passes beneath the latter through the eye, and partly surrounds the pale ear-coverts, and another black streak proceeds downward from the base of the lower mandible; the chin, throat, and breast, are dingy grey, with slight dusky spots in front of the neck; and the rest of the lower-parts are uniform light ruddy-brown, with traces of dark streaks on the flanks: wings dusky, the feathers margined with the rufescent-brown of the back; and the two outermost tail-feathers on each side are chiefly white, except on their narrow outer webs. Bill pale plumbeous, and legs light-coloured. Also procured in the vicinity of Simla by Capt. Thomas, who has obligingly presented it to the Society.* According to Messrs. Dickson and Ross, this bird is common in the vicinity of Erzeroum, being found near mill-streams, and in burying grounds. *P. Z. S.* 1839, p. 132.

Mr. Hodgson, in *Proc. Zool. Soc.* 1845, p. 35, states that, in Nepal,—"We have four species of *Emberiza*, three of which are the *erythroptera*, *chlorocephala*, and *aureola*, of authors; and the fourth," he adds, "is, I think, new,—*Emberiza oinops*, mihi,—a new subgenus, *Ocyris*, mihi." Of these four, the first now bears the name *Lathami*, Gray†; the second is, beyond doubt, my *melanops*, *J. A. S.* XIV, 554, which was recognized by Mr. Hodgson when in Calcutta, as a species familiar to him, and it is quite distinct from *E. hortulana* (v. *chlorocephala*,) of Europe‡;

* I have since been informed that it is there common. Lord A. Hay procured many specimens; and mentions also another species "closely allied to it, but differing in having a large liver-brown spot on the cheek, and in some other particulars." The liver-brown spot in question is possessed by *E. fucata* and by *E. pusilla (?)*.

† Lord A. Hay possesses this bird from Hong Kong; and Mr. Jerdon considers it to be the *Moineau de Macao* of Buffon, "and if so it will bear the prior, but certainly inappropriate, name of *melanictera*, Vieillot."

‡ Since the above was penned, the Norwegian collection has supplied us with a specimen of the European Ortolan, *E. hortulana*: its upper-parts are nearly as in *E. melanops*, but the face and abdominal region are wholly different; the latter is nearly of the same rufous tint as in *E. cia*, but mingled with yellowish; while in *E. melanops* the abdominal region is pure light yellow, with dusky streaks on the flanks.

the third, *E. aureola*, is common also in Tipperah and Arracan ; and the fourth, I greatly suspect, is *E. pusilla*, Pallas, and certainly the same as that described from a female specimen in XIII, 958, by the name *E. sordida*, Hodgson. I add the description of a male, which I lately saw from Darjeeling.

E. pusilla (?), Pallas. Length about five inches and a half, wing two inches and three-eighths, and outermost tail-feather two and a quarter; the tail forked to the depth of five-sixteenths of an inch: bill to forehead three-eighths, and tarse above five-eighths, of an inch. Upper-parts streaky, the feathers black-centred, set off with rufous, and this margined with greyish-brown; the rufous colour more developed on the scapularies and rump: crown, lores, and ear-coverts, rufous; supercilium and chin pale rufescent, and above the supercilium is a broad black streak, the feathers of which are slightly rufous-edged: wings dusky, the feathers externally margined with ruddy-olive, and tipped paler: tail having a broad oblique white streak on the outermost feather, and a narrow one on the penultimate: lower-parts whitish, with a dusky line on each side of the throat, and streaks of the same on the breast and flanks. Bill horn-coloured, and legs pale. This species is somewhat allied to *E. fucata*, Pallas.*

Alaudinæ. Alauda raytal, Buch. Ham., nobis, XIII, 962. This bird abounds on the white sand-dunes of the Hooghly, where the stream, unchecked by the tide, deposits only fine sand, and the alluvial country round (from this cause) is everywhere light and arenaceous: this Sand Lark being scarcely ever seen except on the flat deposits of white sand within each bend of the stream; but there they are very numerous, and (as usual) their colour approximates that of the surface. Fine specimens measure five inches and five-eighths, by ten inches; wing three and a quarter; and tail two inches: bill to gape five-eighths, and tarse three-quarters of an inch; toes short, the hind-claw

* *Loxia flavicans*, var. *A.*, Latham, =*Emb. icterica*, Eversh.: his *Emb. luteola* is perhaps the female of *E. melanocephala*, but agrees with that of *E. aureola*: his 'Goura Finch' is *E. Lathami* (v. *melanictera?*): his *Fringilla butyracea*, L., is *Crithagra chrysopogon*, Sw. ('Birds of W. Africa'), which is occasionally brought alive to India from the Mauritius, and kept as a cage-bird: *Fringilla stulta*, Ind. var., is doubtless *Gymnoris flavicollis*: and his *Loxia totta* and *madagascariensis* of India,=*Carpodacus erythrinus*, as was long ago pointed out by Mr. Jerdon.

barely exceeding a quarter of an inch.* Irides very dark brown; bill whitish, with a slight tinge of dusky above; and legs albescent-corneous, the toes pale dusky-brown. The young have a very whitish appearance, from the downy character of their feathers; and all the usual mottlings of young Larks are exhibited by them, though less conspicuously than in most other Larks. *A. raytal* is not much of a musician; but often venturcs on short snatches of song, frequently without rising from the ground, and I never saw it mount high like its musical neighbour, the *A. gulgula*, whose habits and song closely resemble those of *A. arvensis:* the haunts of these two species border, and they may commonly be seen and heard at the same time; but this will be on the confines of each others territory. Upon ascending the river Hoogly, a considerable change both in the animal and vegetable productions of its banks is soon perceptible, with the change of the face of the country that has been alluded to. The White Vulture (*Neophron percnopterus*) makes its appearance, which is never seen lower down upon the argillaceous or mud soil; *Buteo canescens* is common; and various little insessorial birds which I have never seen near Calcutta, as *Malacocercus caudatus, Chrysomma sinense, Cisticola cursitans,* the true British *Curruca garrula, Amadina malabarica,* &c., &c., abound more or less; the *fauna* altogether more approximating that of Hindoostan Proper, and I have no doubt that it would soon yield various novelties to a diligent collector.

Genus *Certhilauda*, XIII, 962. There are two closely allied species of Indian *Certhilauda*, differing only in size: the larger of which, with wing four inches long, must be the true *C. chendoola*, (Franklin,) described to be of the size of the British Sky Lark; while the smaller, referred to *C. chendoola, loc. cit.*, has the wing but three inches and a half, or less, and the rest in proportion: the latter may now rank, is *C. Boysii*, nobis (the Society being indebted to Captain Boys for a fine specimen of the former species, which has led to its descrimination). One of them is the 'Crested Calandre Lark' of Latham.†

* The hind-claw of this *Alauda* resembles that of the *Certhilaudæ* and *Pyrrhulaudæ*, as does also its light sandy-coloured plumage; but its other characters are those of restricted *Alauda*.

† Latham's 'Aggia Lark' is *Alauda gulgula;* his 'Finch Lark'=*Mirafra assamica;* his 'Baag-geyra Lark'=*Calandrella brachydactyla;* his 'Slender Lark'=*Anthus malayensis;* his 'Yellow-headed Lark' can only be *Budytes citreola;* and his 'Wagtail Lark' is the female common *Budytes*.

In the 'Madras Journal,' No. XXXI, 136, Mr. Jerdon considers his *A. deva (A. malabarica* apud nos,) to be an aberrant *Certhilauda*, nearly allied to *C. Boysii:* but, if so, he must have sent the Society another species as his *A. deva;* for the specimen referred to, is a true *Alauda*, closely allied to *A. gulgula*, but with a pointed crest, and quite agreeing with Scopoli's description upon which is founded *A. malabarica*, Gmelin; whereas *Mirafra affinis*, Jerdon, which Mr. Strickland considered to be the *malabarica*, has too short a wing for that bird, and also does not accord in other particulars.

Genus *Accentor*, Bechstein. This remarkable genus seems to come in no where better than on the extreme verge of the *Fringillidæ*, which I believe to be its natural location.* Mr. Hodgson has recently described (in *P. Z. S.* 1845, p. 34), in addition to *Acc. nipalensis* and *Acc. strophiatus*, *J. A. S.* XII, 958-9, an *Acc. cacharensis* and an *Acc. immaculatus*. Specimens, however, with which that gentleman favoured the Society, having those names attached, I consider to be decidedly of one and the same species in different states of plumage; and I have described each of these phases in my notice of *Acc. nipalensis*. Referring now to Mr. Hodgson's specimens which were so labelled, I still consider his *Acc. immaculatus* to be the adult in worn plumage, which I mentioned in my description of this bird to have been forwarded as distinct; but I cannot equally well reconcile the description of *Acc. cacharensis* with the only young specimen retained for the Museum, though I still greatly doubt its distinctness. I know four well marked Himalayan species of *Accentor*, all of which have been described by me in the Society's Journal, viz. *Acc. nipalensis*, *Acc. variegatus*, *Acc. strophiatus*, and *Acc. mollis*, (vide XIV, 581).

The *Fringillidæ* pass to the softer-billed birds through the great American series of the *Tanagrinæ;* and from them I believe there is a pretty complete gradation to the *Cerœbinæ*, or South American Honeysuckers. The latter are quite distinct from any of the nectar-feeding genera of the Old World, which may nevertheless follow, and we commence the series of them with the *Nectariniadæ*, (passing over the true *Promeropidæ*, in which *Irrisor* does not rank).

Genus *Arachnothera*, Temminck, treated of in XII, 981, and fur-

* When writing the above, I had not remarked Mr. Hodgson's expressed opinion to the same effect. *P. Z. S.* 1845, p. 34.

ther noticed in XIV, 557. The Society has now eight species of this genus, a revision of which has become necessary.

1. *A. magna*, (Hodgson) : vide XII, 981. Hab. Nepal, Assam, and Arracan.

2. *A. flavigaster*, (Eyton) : vide XIV, 557. Malacca.

3. *A. chrysogenys*, Tem., vide XV, 981. Malay countries. This and the preceding species are allied, but differ much in size : and *A. flavigaster* has a broad circle of yellow feathers surrounding the eye, in addition to the ear-tuft ; whereas *A. chrysogenys* is naked under the eye, and has a semi-circle of yellow feathers above it.

4. *A. inornata*, Tem. (nec apud nos, XII, 982) : *Cinnyris affinis*, Horsfield. Closely allied to the next, but larger, of a brighter and more yellowish green above, the under-parts greyer, and marked more decidedly (especially on the breast) with a dark central streak to each feather. Inhabits Java.

5. *A. modesta*, (Eyton) : *A. latirostris*, nobis, vide XII, 982. Malacca.

6. *A.* ——— ? Temminck. Allied to the next, but much larger ; the throat and breast dull albescent-green, with an obscure central dusky streak to each feather ; belly and lower tail-coverts pale yellow ; and a tuft of orange-yellow feathers on each side of the lower breast, ordinarily concealed beneath the wing. Length of wing three inches and a quarter ; of tail two and a quarter ; and bill to forehead two inches. From Java.

7. *A. longirostra*, (Lath.) Smaller than the last, with the same pectoral tufts under each wing ; but the throat and fore-neck are spotless clear dull white, and the abdomen is much deeper yellow. Also from Java.

8. *A. affinis*, nobis ; *A. inornata*, apud nos. XII, 982. Very like the last, but always smaller, and duller-coloured ; the abdomen of a weaker and greener yellow, and rarely a trace (and at most a very slight one) of the orange pectoral tufts. Inhabits the Eastern coast of the Bay of Bengal, from Arracan to Malacca ; and Mr. Jerdon obtained a single specimen of it in the Mysore district, bordering the Neilgherries.

Respecting the other genera of this group, I have little now to add : the *Nectariniæ* are treated of in XII, 969, *et seq.*, and XIV, 557 * ; and

* *Nectarinia malaccensis*, (Scop.), *lepida*, (Lath.), and *javanica*, Horsf., refer to the same species.

the *Dicœum* group also on the latter occasion.* Mr. Gould has recently figured a curious little Australian bird by the name *Smikrornis flavescens*, the form and colouring of which approximate those of *Piprisoma agile;* and it seems to lead thence to the hitherto isolated Australian genus *Pardalotus.* Should this affinity be real, a gradation would be here shewn from the Malayan *Prionochilus* to the Australian *Pardalotus;* and the position of the latter genus be thus affirmed.

Fam. *Meliphagidæ.* The most decided Indian representative of this Australian group, occurs in the genus *Zosterops*, treated of in XIV, 562 *et seq.;* and the sole Indian species is evidently the *Sylvia palpebrosa*, Temminck, *p. c.* 292, f. 3, as described in Griffith's 'Animal Kingdom,' VI, 451; but whether this, or the name *annulosus*, (Swainson), should hold precedence, I have not the means of determining. The *Z. borbonicus* doubtfully referred to this genus in XIV, 564, is, I perceive, on more minute inspection, a decided *Zosterops*, having the same circle of feathers round the eye, only of a dusky hue, instead of the silky-white which renders this circle so conspicuous in its congeners. It is the *Z. cinerea*, Swainson, 'Menageries,' p. 294.† Perhaps the genus *Iora* (treated of in XIII, 380, and XIV, 602,) may come within the extreme confines of the *Meliphagidæ:* and though not much allied to *Iora* (so far as I can perceive), I have less hesitation in bringing the Orioles under the same group.‡ An Australian species of true Oriole *(Gracula viridis* of Shaw) has, indeed, been long regarded as a *Meli-*

* Lord Arthur Hay has discovered a new *Dicœum* in the neighbourhood of Simla, which he designates *D. sanguinifrons.* "Forehead, occiput, and chin, a rich blood-orange red—more orange than red in dry skins; lower-parts golden-yellow: upper-parts the same, mingled with olive." Dr. Horsfield's Javanese *D. cruentatum*, described in XIV, note to p. 558, is *D. rubrocanum*, (Tem.)

† I named one Mauritius species, *Z. curvirostris*, in XIV, 563; but I find this name has been anticipated by Mr. Swainson, for the "*Dicœum chloronotus* of the Paris Museum" (vide 'Birds of W. Africa,' *Nat. Libr., Orn.*, VIII, 44). If, however, the latter had been *described* by the specific name *chloronotus*, Mr. Swainson could have no right to change it, at least without assigning a sufficient reason for so doing; and if undescribed before, it does not appear that Mr. Swainson has published any description of it, that should establish his right of nomenclature.

My *Z. nicobaricus*, XIV, 563, would seem to be merely the young of *Z. palpebrosus;* though I have never seen an Indian specimen in the same plumage. Examples in the ordinary adult garb of *Z. palpebrosus* have now been received by the Society from the Nicobars.

‡ This is an opinion to which I have long been leaning; and I pointed out the affinity of *Plectrorhyncha lanceolata*, Gould, to the Orioles, even to the form of its nest, in XII, 180 *(bis)*.

phagidous bird, and under the generic name *Mimeta*, has been classed in the present family. Mr. Gould, in his great work on the birds of Australia, has lately established its true generic position; which indeed had been previously indicated by various other systematists.

In XI, 797, I made some attempt to review the Asiatic Orioles, and shall now (with much more extensive materials) resume the subject. The species are as follow:—

1. *O. Traillii; Pastor Traillii*, Vigors and Gould. Common in the eastern Himalaya, and occurs in Assam, Arracan, and Burmah. This bird has been placed in all sorts of genera, certain of which have been established for its reception, as *Psarophilus* of Jardine and Selby: Mr. Hodgson long ago recorded his opinion that it is a true Oriole, and in this I quite coincide. Mr. G. R. Gray refers it to *Analcipus* of Swainson, founded on *Ocypterus sanguinolentus* of Temminck, *p. c.* 499; and another species which Mr. Swainson arranges with it, is his *An. hirundinaceus*, (*Nat. Libr.*, 'Menageries', p. 284,) a bird which he also assigns to India; but Mr. Strickland, who has recently examined the originals (now at Cambridge) of many of Mr. Swainson's descriptions, writes me word that the species in question is scarcely separable from *Artamus (v. Ocypterus)*, and that it is labelled from Madagascar. How, therefore, such a bird can have any near affinity for an Oriole, and a most decided Oriole (in my opinion), is far from being easy to understand.

2. *O. melanocephalus*, Lin.: *O. maderaspatanus*, Franklin (the female); *O. McCoshii*, Tickell (young male). Very common in Bengal, also in Nepal, Assam, Arracan, and southward to the Tenasserim Provinces; and in some parts of the Peninsula of India, whilst in other parts it is rather scarce. Length of a male nine inches and a half, by sixteen inches; wing five and a quarter, and tail three and a half; of a female nine and a quarter, by fifteen inches: bill to forehead an inch and three-eighths; to gape, one and five-eighths; tarse seven-eighths of an inch. The black-headed Oriole of South Africa, considered identical by Sykes (*P. Z. S.* 1835, p. 62), is a conspicuously different species, with no yellow on the wings: it is the *Turdus monachus*, Gm., termed *O. capensis* by Swainson; who also names another black-headed Oriole, more nearly allied to the Indian species, but from Sierra Leone, *O. brachyrhynchus*, ('Birds of West Africa.' *Nat. Libr.*)

In his "Two centenaries and a quarter of new or little known birds," appended to his volume on 'Menageries,' in the 'Naturalists' Library,' Mr. Swainson has also described an *Oriolus Hodgsoni*, said to be from Nepal; but of numerous Nepalese and other Himalayan specimens, I have seen none that could be referred to it. It is stated to resemble *O. melanocephalus*, except that it is "much smaller, and the tips of the quills are white instead of yellow: middle feathers of the tail yellow, with a black bar nearly across their centre. Total length about seven inches: bill from gape, an inch; to front, eight-tenths: wings four inches and eight-tenths; tail beyond, seven-tenths: tarse seven-tenths." This notice may perhaps lead to its recognition.

3. *O. chinensis*, Lin.: *O. cochinchinensis*, Brisson; *O. acrorhynchos*, Vigors, *P. Z. S.* 1831, p. 97: *Coulavan* of Buffon. This bird, which is not Indian, is remarkable for its very large and highly carinated beak, which is particularly deep at base, and drawn out to a fine point. Forehead yellow, not extending back beyond the hind-part of the eye: lores, spreading above and below the eye, and forming an occipital patch broader than the yellow of the forehead, deep black; this does not, however, reach forward quite to the nares: posterior half of the wing, comprising also the winglet and coverts of the primaries, black; the rest of the wing, or anterior half, bright yellow: tail black, its middle feathers tipped with yellow for three-eighths of an inch, the next for an inch and a half on its outer web, and the outermost for two inches on both webs. Length of wing six inches; of bill to forehead an inch and a half, or nearly so; and of tail four inches. Inhabits China and Manilla.

4. *O. macrourus*, nobis. Closely allied to *O. chinensis*, from which it is distinguished by its longer tail, rather smaller and less carinated beak (which however is always conspicuously larger than in the next species), and by the greater patch of yellow upon the forehead of the male: another distinction consists in the disposition of the yellow upon the tail, which has scarcely any of this colour at the tips of its middle pair of feathers, while the outermost is in old males wholly yellow, with merely the shaft black towards the base,—some specimens shewing one or two insulated patches of yellow, chiefly at the extreme base of the outer web,—and younger males having the tail coloured more as in the adults of the Chinese species, but still with scarcely a trace

of yellow at the tips of the middle pair of feathers. The wings have their longest primaries slightly margined externally with whitish, and in some specimens there is a slight yellow border to the secondaries and tertiaries; while younger males have the whole exterior portion of the secondaries and tertiaries washed with yellowish-olive. The coverts of the primaries are always tipped with yellow, producing a slight spot of this hue, which does not occur (at least in the adult male of) *O. chinensis*. Younger males have, as usual, the back and wings tinged with dusky greenish; and in females (and perhaps still younger males), the same dull colour prevails on the head and neck, the broad black occipital crescent is merely indicated, the feathers of the under-parts have each a black central stripe, and the tail is wholly dusky yellowish above, prevailing throughout the outer webs of all the feathers, while the inner webs are successively more deeply terminated with yellow,—this colour being alone seen underneath, in adults of both sexes. Length about eleven inches, or rather more; of wing six; and tail four and a half to five inches: bill to gape an inch and a half, and tarse an inch. Inhabits the Nicobar Islands.

5. *O. indicus*, Brisson, Jerdon, *Ill. Ind. Orn.* pl. XV: *O. chinensis* et *cochinchinensis* of India, auctorum; *le Loriot des Indes*, Buffon. This differs from the two preceding in its considerably smaller bill; in the yellow of the forehead extending further back beyond the eye, reducing the black occipital crescent, which latter is continued forward in adults, through the ocular region, quite to the nares; in the greenish tinge of the back, even of old males; and very conspicuously in the much greater extent of the yellow upon its wings, while the tail has less than in *O. chinensis*, and its middle feathers have rarely distinct yellow tips: in *O. chinensis*, and some specimens of *O. macrourus*, the secondaries and tertiaries are wholly deep black; whereas, in the present species, the secondaries are broadly margined, and the tertiaries have their whole outer web and part of the inner web, greenish-yellow; the primaries are tipped with the same; and a bright yellow wing-spot is formed by the tips of the coverts of the primaries. Younger males have much more of the green tinge above and on the wings, and the under-parts are much weaker yellow, with black stems to the breast-feathers, more or less developed. They evidently increase in brightness of colouring for several years. Females are yellowish-green

above, with little or no trace of the occipital crescent; whitish beneath, with dark central lines; bill infuscated, instead of pinkish-white, as in the males; and the shape of the beak will always readily distinguish them from the same sex of *O. kundoo.* Length of wing six inches to six and a quarter in bright old males, often not more than five inches and a half in younger males; bill to forehead an inch and one-eighth, or a sixteenth more. Rather a rare bird in India generally, and I have never seen it from the Himalaya. About Calcutta it is very rare; but in the countries eastward of the Bay it is generally common, as in the island of Ramree (Arracan), in the Tenasserim Provinces, and Malay peninsula. The Society also possess it from China.

6. *O. coronatus*, Swainson; *O. hippocrepis*, Wagler. With this Malayan species I am unacquainted, and shall merely cite the following passage from Mr. Jerdon's description of the last, in his 'Illustrations of Indian Ornithology.' "Swainson's *O. coronatus* from Java (as described,) differs from our peninsular *O. indicus*, in its smaller size, shorter wings, tail, and tarsus, and in the narrowness of the black nuchal band. Its bill appears to be somewhat larger than in ours, but shorter than in *chinensis.* Wagler's description of *O. hippocrepis* (which he considers the same as *chinensis*, auct.,) corresponds with it in the yellow tips of the central tail-feathers, and with our peninsular bird in having the black ocular band extending to the nares, and in other points. As, however, his specimens were obtained chiefly from Java and Sumatra, it is most probably Swainson's *coronatus*, with which it indeed agrees pretty nearly in dimensions. The latter are given as nine inches and a half total length, wing five and three-tenths, tail three and a half, bill to forehead an inch and two-tenths, and tarse eight-tenths."

7. *O. tenuirostris*, nobis. An evident young male, resembles the corresponding age of *O. indicus*, except in the shape and colour of its bill, in the much greater extent of the yellow on its forehead, and proportionate contraction of the black occipital crescent, also in its rump having much less yellow, relieving the greenish hue of the back and wings. As in the young male *O. indicus*, and fully adult *O. chinensis* and *O. macrourus*, the black of the lores is not continued forward to the nares; but the separation of colours is abrupt and decided, probably indicating a similarity of extent in the adults: the whole crown is yellow, the black of the occiput not rising above the level of the eye. Wing mostly greenish, the

coverts which show externally not being tipped with yellow, as in the corresponding age of *O. indicus;* but the tertiaries have narrow yellow tips, which also are less developed on the secondaries, and uppermost primaries. Bill longer and much more slender than in *O. indicus*, and of a slightly arched form; its colour fleshy apparently at base, but red for the remainder as in *O. galbula*. Length about ten inches, of wing five and three-quarters, and tail three and a half; bill to forehead an inch and a quarter, and tarse seven-eighths. I believe, but am not sure, that the specimen here described is from Central India. There can be no doubt of its distinctness as a species.

8. *O. kundoo*, Sykes (the female): *O. galbula* apud Sykes (the male), and of Franklin's catalogue: *O. aureus*, Jerdon's *Catal.:* and doubtless *O. galbuloides* of Gould, mentioned in *P. Z. S.* 1841, p. 6. This is the Indian *O. galbula*, auctorum. It invariably differs from the European species in having a larger bill, and in the black streak from the bill being continued backward beyond the eye in the males: from the African *O. auratus*, Swainson, it differs in the colouring of its wings, which resemble those of *O. galbula*. This bird, so very common in the Indian peninsula, and which extends up to the N.W. Himalaya, occurs also in the hilly parts of Bengal, as Rajmahl and Monghyr, and at Midnapore; these hills being off-shoots from the ranges of Central India, and partaking of the fauna of the latter in numerous other instances; but in the vicinity of Calcutta I have never met with it, nor seen it in any collection from the countries eastward: the Calcutta specimens which, on a former occasion, I referred to *O. galbula* (and afterwards termed *aureus*), proving to be females of *O. indicus*.

9. *O. xanthonotus*, Horsfield: *O. leucogaster*, Reinwardt: *O. castanopterus*, nobis, *J. A. S.* XI, 795, (the young male). Peculiar to the Malay countries.

Another very distinct group as a genus, which, though less allied to other *Meliphagidæ* than I consider the Orioles to be, yet offers (in at least the majority of its species) those adaptive characters which many would term the essential features of the family, is that of *Phyllornis* (vel *Chloropsis*), treated of in XIV, 364 *et seq.* To what is said there, and before, concerning this group, I shall now only add that the young of *Ph. Hardwickii* may as well be described, in order perhaps to check its being brought forward as a new species. The plumage is green, more yellowish underneath, the throat pale yellowish, and there is a

little blue mingled with the yellowish on the moustaches: a trace of blue also on the shoulder of the wing, and upon the outer primaries and outermost tail-feathers.*

The *Phyllornis* group conducts to the Bulbouls, treated of in XIV, 566 *et seq.*: and the affinity of this distinct family for that of the *Meliphagidæ* is, I think, undeniable. I have little now to add elucidative of a group so lately under review; but may remark, that Lord A. Hay considers the *Pycnonotus hæmorrhous* of the Upper Provinces to be distinct from that of S. India, and proposes the name *intermedius* for the former. There is this much difference, that it would be generally easy to pronounce whether a specimen was from Northern or Southern India, the former having the colours generally better defined, especially the pale margins to the feathers of the upper-parts, and the tail also is commonly longer: but looking to a series of these birds, from Goomsoor, Agra, and Arracan, I do not see that they can be defined apart. Of *P. leucogenys*, Capt. Boys informs me, that it is common down the Indus from Buhawulpore; and that he has lately obtained it near Ferozepore. A *P. rufocaudatus* has recently been described by Mr. Eyton, *An. and Mag. N. H.* 1845, p. 228, which must be put as a synonyme of *Criniger gularis* (Horsf.), *J. A. S.*, XIV, 571. Mr. Eyton also describes an *Ixos metallicus*, which would seem to be allied, except in size, to *Brachypodius melanocephalus*, XIV, 576. The *Turdus indicus*, Gm., as represented in Buffon's figure, of which a copy has been obligingly sent me by Mr. Jerdon, would certainly appear to be a very different species from *Criniger? ictericus*, Strickland, which Mr. Jerdon had referred to *T. indicus* (as noticed in XIV, 570). Lastly, the name *Ixodia*, nobis, XIV, 577, has been forestalled in Botany; as *Ixodes* (as I first had it) had been previously applied to a genus of Spiders; so I shall now take refuge in *Ixidia*, which I trust has remained hitherto unattached.†

Among our late acquisitions from the Nicobars, I must not omit to mention several specimens of *Ixocincla virescens*, nobis, XIV, 575; and of all ages, from youth to maturity. The species is quite distinct from

* The 'Blue-chinned Thrush' of Latham refers to *Phylloruis Jerdoni*; and *Chloropsis gampsorhynchus* (mispelt *cæsmarhynchos*), apud Tickell, should have been assigned to the same: my originally mistaking this bird for the female of another species, occasioned me to give it as a synonyme of the latter.

† Latham's 'Hooded Thrush' refers to *Pycnonotus leucogenys*; his *Turdus capensis*, Ind. var., probably to *P. flavirictus*; his *T. cafer*, from India, to *P. bengaleusis*; and his 'Tufted Thrush' to *P. melanocephalus*.

Hypsipetes malaccensis, nobis, but can scarcely be placed in a different sub-generic group; and I think it will rank best as an aberrant *Hypsipetes*, showing a marked affinity for *Iole*. The bill is rather shorter than in *H. malaccensis*, and the coronal feathers tend less to assume the pointed form: length about eight inches and a half, of wing from three and a half to nearly four inches, and tail three inches and a half; bill to gape an inch, in some an eighth more; tarse three-quarters of an inch: the tail is a little graduated, but inclines to assume the true *Hypsipetes* shape. Plumage of a uniform olive-green above, the crown infuscated, or of a brownish-nigrescent hue: throat and breast dingy-whitish, a little tinged with yellow; the rest of the lower-parts more deeply and conspicuously tinged with yellow. Bill dusky, with yellow tomiæ, and elsewhere an appearance of its becoming ultimately wholly yellow: the tarsi plumbeous. The nestling tertiaries remaining on the specimen formerly described, and the outer webs of the nestling primaries, are of a dingy chesnut colour; and there is a shade of the same upon the tail. The same appears to be the case with the young of *H. malaccensis;* and the two species considerably resemble at first sight, but the present may readily be distinguished by its infuscated crown, and its unstreaked throat and breast. E. B.

(To be continued.)

Postscript.—I have already to acknowledge another interesting collection, partly from the Nicobars and partly from Penang, just received from our esteemed contributor, the Rev. J. Barbe.

Among the birds, is a finer male of *Palæornis erythrogenys* (note to p. 23, *ante*,) than that previously described; having the nape and interscapularies light yellowish, rather than tinged with hoary-grey, and the under-parts also more yellowish than in the other.*

Of *Todiramphus occipitalis (loc. cit.)*, it would seem that I described females and young only; for what I take to be the males are considerably brighter, with the wings and tail much bluer, of a decided Prussian blue, the black nuchal collar (continued from the ear-coverts) is much narrower, and in some tinged with blue, and the white supercilia (carried round the occiput) have little or even no tinge of rufous.

* Dr. Cantor possesses a female of *P. caniceps*, nobis *(loc. cit.)*, from the Malay peninsula. It has the tail developed to the usual length in this genus; and green above with some blue on its middle feathers, and dull golden-yellowish below; the head less pure grey than in the male; and the bill wholly black, as I suggested it would be in this sex.

Picus moluccensis (*verus*, p. 16), identical with the Javanese species, is sent from Penang; and I find that it is Mr. Eyton's *Tripsurus auritus*, *An. and Mag. N. H.*, 1845, p. 229,—another synonyme to be added to those reduced in p. 14: Mr. Eyton also describes *(loc. cit.)* a *Picus rubiginosus*, which is a *Gecinus* most nearly allied to *G. malaccensis*, and has been subsequently described by Lord A. Hay as *P. melanogaster*, *Madr. Journ.* No. XXXI, p. 153: but *Bucco quadricolor*, Eyton, is distinct from both the species with which its identity is suggested at p. 14 *ante*.

The most interesting specimens, however, in this collection, are a pair of adults of the *Megapodius* of the Nicobar Islands, and also two undoubted eggs of this bird, of which Captain Lewis prepared only a chick. So remarkable a species may be at once described, however, out of its place in the present series.

M. nicobariensis, nobis. Length about fifteen inches, and of wing nine inches; tarse two inches and a half; middle toe an inch and five-eighths, and its claw three-quarters of an inch; hind-claw seven-eighths. Foot rather small for a *Megapodius*, the middle toe and claw but little exceeding the two lateral in length. General hue of the upper-parts deep olive-brown with a tinge of ochreous, which becomes more decided on the wings; lower-parts dingy greyish-brown, with a slight tinge of ochreous on the breast, and which prevails throughout the under-parts of a presumed female: crown slightly rufescent-brown, prolonged into a short crest, and the occipital feathers impended by the coronal are light greyish: lores, cheeks, and throat, almost naked: the primaries light ochreous on their outer webs, and dusky internally: bill yellow: and legs and claws dark horn-coloured. The chick is coloured nearly as in the adult, but is mottled with faint russet on the wings, and the abdomen has a rufous tinge; the feathers of the head, neck, and breast, having a peculiar hair-like structure. The presumed egg is of a true elliptical shape, or with the small end just distinguishable, measuring three inches and a half in length, and being of an uniform somewhat ruddy stone-colour. The habits of this bird would appear to resemble precisely those of *M. tumulus* described by Mr. Gould. Captain Lewis had seen the mounds, and the birds upon them; but was unaware that the latter had been the accumulators of such huge heaps of material. Upon shewing him Mr. Gould's description of the habits of the Australian species, he remarked that the same account would equally apply to the Nicobar bird, except

that he had observed no heaps quite so large as some of those described by Mr. Gould. The eggs were sent by Mr. Barbe, with merely a notice that they had been "found in the sand."

I have further to acknowledge a rich collection of New Holland specimens, just received from the Australian Museum at Sydney. In Vol. XIV, p. 546, I made a few remarks on Mr. Gould's magnificent work on the birds of Australia, and therefore I shall further notice here, that Mr. Gould's *Carpophaga leucomela* is not a *Carpophaga*, but a *Dendrotreron* apud Hodgson, ranking with *C. Hodgsonii*, *C. arquatrix*, and *C. guinea*, auctorum, having but twelve tail-feathers, &c. &c. : and that Mr. Gould's distinctions of *Eurystomus australis* from *Eu. orientalis* are very erroneous ; as these two species exactly agree in size and structure : but the former is readily distinguished by having the black of the head confined to the lores, and by the brownish hue of the crown and nape, of which no trace occurs in the species of India and the Malay countries ; which latter has the whole head and cheeks blackish, and the nape and back concolorous with the scapularies, in addition to its blue being of a deeper tint. Lastly, the *Anous melanops* figured by Mr. Gould, is certainly identical with a species in the Society's Museum, from the Bengal Soonderbuns ; and which I can scarcely doubt will prove to be the *Sterna tenuirostris*, Tem., from the western shore of the Indian Ocean, or, in other words, the eastern coast of Africa.

Chrysococcyx smaragdinus, nobis. In XI, 917, I considered certain little Cuckoos to be specifically identical, which are respectively inhabitants of India, the Malay countries, and Australia. A better series of specimens now convinces me that three species are here confounded. That of India has already received a name, being the *Trogon maculatus*, Gm., founded on the spotted Curucui of Brown's Illustrations, which certainly represents a variety, or incidental state of plumage, of this species ; but the name is so very inapplicable to the species generally, that it cannot justly be adopted. The presumed male and female described, *loc. cit.*, as *C. lucidus* refer to this species : another presumed female, from Arracan, tends to the *hepaticus*, plumage common to many Cuckoos, having the head chesnut, the back still more cupreous than in the supposed female formerly described, and the lower-parts closely barred throughout with coppery-green upon a white ground, except the lower tail-coverts which are chiefly banded with green and deep rufous:

the tail has its middle-feathers shining green, with a dusky purplish band at tip,—the next pair similar, but with deep rufous broadly margining the basal half of their outer webs,—this rufous is successively more developed on the two succeeding pairs,—and the outermost has its exterior web and the contiguous portion of its inner web pure white, banded with shining green, which extends also over the rufous portion of the inner web: terminal third of the bill dusky, the rest translucent pale straw-yellow in the dry specimen. Another supposed female is throughout in the *hepaticus* plumage, or rufous above, white below, with greenish-dusky bars throughout, the outermost tail-feather marked with white chiefly on its exterior web, and the two next tail-feathers slightly tipped with white: bill, with the basal half amber-coloured, the remainder dusky. Another, again, is of a predominant dull glossy green above, with the same rufous and white on the tail, but its middle-feathers are also obscurely barred with rufous, and most of the wing-feathers are margined with the same: bill wholly dusky. Lastly, another is chiefly of a dusky hue above, scarcely glossed with greenish, the feathers having slight rufous margins more developed on the wings; and tail as in the last. In all, however, the under-parts are *much* more closely banded than in the Australian species; and the wing measures generally four inches, or sometimes four and a quarter in adults. Inhabits the hilly parts of India, but seems to be everywhere rare. Brown figures it from Ceylon; and I have seen it from Central India, Rajmahl, Arracan, &c.

Chr. basalis: Cuculus basalis, Horsfield: *C. chalcites*, Tem.: *C. malayanus*, Raffles. This seems exactly to resemble the last, except in its constantly smaller size; and it is equally variable. Wing three inches and a half to three and three-quarters. It holds the same relationship to the Indian species, which *C. lugubris*, Horsfield, does to *C. dicruroides*, Hodgson, and *C. flavus* does to *C. tenuirostris*. The specimen described in XII, 944, was not, I believe, from Macao (as I was informed), but from Malacca. Specimens corresponding to the adult male of *Chr. smaragdinus*, have not hitherto fallen under my observation.

Chr. lucidus (?), Gm.: *C. metallicus*, Vig. This is the Australian species, corresponding in size to the first, but having constantly, so far as I have seen, a black bill, the under-parts much more distantly banded, and presenting various other distinctions.

Note on the Geological features of Zillah Behar. By Lieut. W. S. SHERWILL, B.N.I., *Revenue Surveyor.*

The geological features of zillah Behar may be divided into four great divisions, viz.—the granitic, the quartzose, the hornstone, and the sandstone. Commencing from the eastern boundary of the zillah, where it abuts upon zillah Monghyr, the hills are in general composed of confused masses of fatty quartz abounding with mica, which is generally found adhering to the quartz. In many places fine veins of mica are worked and the produce exported to Patna. The principal mines are to the south of Rujowlee, both in the granite and quartz ranges. The country at the foot of these hills is thickly strewn with minute particles of silvery mica, brought down from the hills by the rains, and entering largely into the composition of the soil : much of it is collected by the natives and used for whitewashing their houses, ornamenting pottery, toys, &c., giving to the articles thus smeared, a lively sparkling appearance and an unctuous feel ; the roads and beds of Nullahs sparkle in every direction from the abundance of this mineral. Immediately on the boundary of zillah Monghyr the granite peak named Kawa Kho rises, from out of the quartz hills, to the height of 1,165 feet ; another small patch of granite also appears about five miles to the S.W. from the peak. The quartz hills are covered to their summits with forest trees, brushwood and bamboos, but as they advance to the westward and become granite, they rise into bold and lofty peaks, some upwards of a thousand feet in height.

After leaving Rujowlee, the granite of these hills is found of every hue and texture that it is possible granite can possess or be composed of. In some places porphyritic granite is found, the individual component parts of which are enormous ; in others eurite, where the individual component parts are undistinguishable from their minuteness, and in other places syenite is found. Also occasional masses of ponderous black mica are found scattered about in company with large masses of the gassy and fatty quartz so common to granite formations.

At the spot where the Calcutta Trunk Road crosses these hills, large blocks of gneiss are seen protruding from the fine black soil, and in most of the ravines and deep water-courses the same mineral is found. In the bed of the Mohunneh river, to the west of the Dunghye Ghat, on the old Calcutta Road, and where it issues from the hills, the water

has laid bare a beautiful bed of gneiss several miles in extent, crossing the Behar boundary and entering zillah Ramgurh: but from the great depth of soil and from the dense forest on the banks of the river, I was unable to trace how far it extends east and west. In the Dunghye Pass, gneiss of peculiar beauty is scattered about in every direction. The summit of this pass at the village of Tillee Tand I found to be 1,300 feet above the level of the sea: it is covered with thick forests, haunted by tigers, who destroyed some men of my establishment whilst engaged surveying these hills. A spur of this granitic range strikes off from the main body and suddenly terminates in the bold mountain, known as the "Muhair hill," (vide map and vignette.) The volcanic range of hornstone hills appear at this spot to overlay the granite, which again appears on the other side of the hornstone, distant about eight miles. This granite extends westward to ten miles beyond the Koël river, or 120 miles from the mica mines at Rujowlee, varying in height from a hundred to a thousand feet: some of the peaks are bold and imposing, but much of this range is composed of a low, undulating and broken plateau of table land, especially the great mass which forms a spur from the Vindhya mountains and lies in pergunnah Sherghotty. This irregular mass, averaging from five to eight miles in width, is composed of coarse granite, covered with a dense jungle of underwood, intermixed with forest trees, affording an inexhaustible supply of the coarser wood, for building, manufacture of ploughs, yokes, sugar mills, &c. besides yielding a plentiful supply of bamboos, grass, a variety of medicinal herbs, barks, roots, leaves and fruits which are collected at various seasons, and used in the zillah or exported. The wild silk (tusser), is also collected from the Asun trees (Terminalia alata tomentosa) and exported. The principal tree is the Saloogunje or Salè, a tall handsome tree, with a smooth shining white bark, high clear stem, wide spreading branches, and of a highly resinous nature, and from which a gum or resin is collected and used as a varnish chiefly by the Palanquin makers. This tree answers to the description of the North-African frankincense tree. The dhak tree, byre, khcir, mimosa and semul, are the most common trees in these woods.

The Samba stag (Rusa), spotted axis, neelghaee, tigers, leopards, and a variety of smaller animals inhabit the depth of these woods. At Deoree, a series of low hills are detached from the body of the table land, and are much impregnated with veins of serpentine. Near the

village a meagre bed of this mineral has been quarried for a few years by natives, who manufacture cups, knife-handles, &c., from the best specimens. Captain Richard Ouseley, Principal Assistant to the Governor General's Agent S.W. Frontier, had a shaft sunk, or rather a huge pit opened, in the hopes of reaching a good bed, but without success; at the depth of thirty feet only a coarse friable granite was found; nor did I perceive in the sides of the pit any traces by which hopes could be upheld of ever finding any at that spot. Perseverance may perchance yet discouver a valuable bed of this handsome mineral. Several slabs, three feet in length, were obtained by the Honourable E. Drummond, Magistrate of Gya, but being from the surface and much decayed, were good for nothing, although very handsome both in colour and texture.

To the north of this great plateau, numerous little granite hillocks are dotted over the plain, extending for twenty-five miles north, amongst which is the large Chirchanwan hill, five miles in length, but to the N.E. they extend for forty miles as far as the Burabur hills, a range of black sterile granite rocks, in which are some very curious groups, peculiar to the granitic formation; particularly that of Kawa Dhole, a conical peak, rising to 365 feet in height, on the summit of which rests a conical block of granite of immense proportions. It is upwards of forty feet in height, standing on its base, without flaw or crack, a landmark for miles around.

On the summit of this group, iron ore of a rich quality is scattered about in profusion. This is the most northern point to which granite can be traced in Zillah Behar.

Returning to the west, a group of very curiously formed peaks are clustered together, six miles south of Kootoombeh. One in particular from its appearance is styled the Kothila (vide Map and Vignette) or granary. In these hills is found, in small quantities, the sulphate of alumina adhering to some of the rocks; it is styled *silajeet* by the natives.

The granite range after crossing the Koël Nuddee suddenly ceases in numerous small hillocks, and is here joined by the sandstone, an offset from the Kymoor sand and limestone range. Eighteen miles further up the Sone river, the granite again appears in one or two hillocks piercing the sandstone. After crossing the Koël river from the east the country undergoes a complete change. The *Tar* tree (palm) becomes scarce and eventually ceases altogether, the surface of the country be-

comes covered with the Mimosa catechu, a few ebony trees and an abundance of saloogunje trees. The hills are clothed with the fragrant rhousa grass, from which a powerful spirit is extracted, so beneficial in rheumatism, and known in Malwa as "Grass oil." The surface of the country is undulating, the soil tinged with bright yellow and red hues, the effects of the oxide of iron, which ore is found in its soil. The hills are low towards the north, and higher to the south; exceedingly steep to the south, and sloping away gradually to the north. The long range of hills skirting the Sone river, are so steep to the south that a stone may be jerked from the summit to the base, but on the north the termination of their base is a mile removed from the plumb-line of their crest. Ten or fifteen miles south of the Sone river, on the table land of Oontaree, iron ore is collected and smelted by the Aghurreeas. Immediately under the ruined fort of Srinugger, the waters of the Sone have denuded a series of nearly vertical strata of hornstone, arranged in narrow serpentine ribbons; this hornstone again appears about half a mile down the river, at Darehdeh, and has the appearance of having been fused, being of a dark pitchy hue, smooth, rounded, sonorous when struck, difficult of fracture, and heavy. A belt of the same rock appears in the bed of the Sone jutting out from the Shahabad or north side, about two miles above Darehdeh: the rock at this spot has exactly the same burnt appearance. Embedded in this hornstone are found masses of a hard claystone of a bright red colour, also common amongst the pebbles of the river, which pebbles generally consist of rounded pieces of agate, hornstone or quartz, possessing but little beauty or variety. The rocks at this spot, projecting more than half-way across the stream of the Sone, create rapids of about six feet fall in a quarter of a mile. At a village named Phoolwurreea, about four miles inland from the Sone, there is a spring of good water. At this spot a fair is held during the months of *Kartik* and *Chait*. At a spot (marked S.) in the sandstone a small quantity of alum is manufactured from alum slate, but by what process, I could not learn. Specimens of the slate were sent marked 359.

The natives call this sulphate of alumina, *silajeet:* it is the same substance as that brought from Nepal, and sold under the same name at the enormous price of one rupee the tola. The sandstone, on the eastern and western banks of the Koël river, is similar to that in which are situated the Rajhurrah coal mines, eighteen miles from the Behar

boundary, and is of various textures, some exceedingly hard, others very soft.

The stone from the Khyra peak, which rises to 1,086 feet, is much used for hand-mills, curry-stones, and for other domestic purposes. The whole of this sandstone is covered with a thin covering of forest trees, underwood, and bamboos; the Saloogunge tree predominating every where. The valleys are filled with the Mimosa catechu, many hundreds of which trees are yearly destroyed in the manufacture of the catechu.

The next group is that of the hornstone, or Rajgheer range of hills, which although slightly mixed with quartz and jasper, must nevertheless be considered as a hornstone range. The hornstone is of both kinds, conchoidal and woody: the former is found of endless varieties, bright-red, purple-blue and other lively colours, uniting to render this an elegant stone: the latter is universally of a greyish-green colour. This double range of hills presents a series of ragged peaks, offering views of great beauty: their extent is about forty miles from S.W. to N.E. A small hill, evidently a portion of the range appears at Behar; another small hill, about eighteen miles due east of Gireenk, and another again twelve miles to the south, uniting with the quartz range and granite peak of Kawa Kho. In this range are numerous hot and cold springs, especially at Rajgheer, where there are nineteen hot wells and four cold: on the southern face of the hills, there are a few hot springs similar in character to those of Rajgheer. Half way between the Rajgheer and Burabar hills is situated a collection of hillocks, from which is quarried hornblend of a beautiful texture; the crystals are large and glossy: also a quantity of potstone, which is much used at Gya by the natives in the manufacture of dishes, plates, mortars and pestles, likewise by the image cutters, who are famous for the elegance of their carvings. A small quantity of potstone, but of an inferior quality, is quarried from the Bruhmjoonee hill, overhanging the city of Gya. A small hill, west of the station of Gya, yields an indurated reddle used for dyeing clothes of an orange colour, also for metalling the roads in the station; this mineral is either of an orange, purple, light-red or yellow colour.

These few notes, combined with the accurate and minute details by Dr. Buchanan, will I hope, render the accompanying Map intelligible.

A Note on some Hill Tribes on the Kuladyne River ;—Arracan. By Lieut. T. LATTER *(67th N. I), of the Arracan Local Battalion.*

Φοιτᾷ γὰρ ὑπὲρ ἀγρίαν ὕδαν, ἀνά τ'ἄντρα καὶ πέτρας.

There are few facts more remarkable in India, than the vast number of tribes which occupy its mountain fastnesses, and which roam through its interminable forests ; all speaking distinct dialects. In many instances such tribes are, as far as distance is concerned, near neighbours ; though in reality almost perfect strangers ; a state of alienation, in a great measure arising from the dense and impervious vegetation, always occupying the lower mountainous ranges of this country. And in no part perhaps is this peculiarity more strikingly exemplified than in the Yooma range of hills, which separate the province of Arracan from the Empire of Burmah. On the banks of the Kuladyne river, which runs down the 93° parallel of longitude, and within a space over which a bird might speed in a summer's day, may be found the following clans—the *Khúmís*, the *Mrús* (of which there are two tribes, speaking distinct dialects), the *Anoos*, the *Kyaus*, the *Khóns*, the *Shentoos*, and finally the *Khyoungthas*. Although the languages of all these may have originated from the same stock, yet there is quite as much difference between them as between French and English. The most powerful among them are the *Shentoos*, who being beyond our frontier, are known to us only by their devastations on those tribes which pay us tribute ; the suddenness, secrecy, and never-failing nature of these attacks, cause them to be held, by the rest, in a dread of which it would be impossible to give an idea. The *Khóns*, who are likewise beyond our frontier, are employed by the *Shentoos* as guides and spies, and are on that account obnoxious to the vengeance of those clans, who may owe a blood feud to the *Shentoos*. They reside during the night in huts built on high trees, and return with the day to their regular habitations below. The remaining tribes are all more or less under our rule, and have consequently given up their feuds. With the exception of the *Khyoungthas* or "Sons of the Stream," all the rest of the tribes, above enumerated, go under the general term of *Toungthas*, or "Sons of the Hill." I shall proceed to give a slight sketch in the following order of the *Khyoungthas*, the *Khúmís*, and the *Kyaus*, which three clans fell under my observation during a short trip up the Kuladyne.

Two-thirds the natural size

KHYOUNGTHAS.

The *Khyoungthas* are only found on the banks of the Kuladyne river, and their livelihood is principally gained from plantations on its banks. They may be viewed as the type of the *Arracan* race; they speak the Burmese language, but with all the harsh provincialisms of the Arracanese. There are many terms in the Arracanese dialect totally distinct from Burmese: as *shay*, "little, small;" *ara*, "more;" *shán*, "thing," and many others, just in the same way as words are found peculiar to certain counties in England. The *Khyoungthas* appear to have been a portion of the original inhabitants of Arracan, driven up the river at the time of the invasion and occupation of the province by the Burmese. Their religion is a simple type of Boodhism, but mixed up strangely with the *Nát* or "spirit" worship of the hills; which appears in some instances almost to have absorbed their original faith. Their parent stream is looked upon with a holy love, not only as affording them sustenance, but likewise a ready passage by which to flee from the attacks of their foes. At the northern outskirts of each village from which quarter alone they dread the advent of any danger (all to the south being in possession of the English), in the direction of the forest, and under the shade of the comeliest tree may be seen the shrine of their two *Náts*, the one male, the other female. They are represented by two pebbles picked from the banks of the river. The female is considered the most powerful, and is meant to represent the *Mayoo Nát*, or spirit which presides over the mouth of the Mayoo river: she is believed to be a most powerful spirit, the guardian of Arracan from all the dangers from the sea. The road from Akyab to Chittagong crosses the mouth of the Mayoo river; here all natives, whatever may be their faith, invariably make their offering to this powerful spirit by letting loose fowls, &c. The other or male spirit is styled *Rwátsaung Nát* or "the village guardian," to whom, as his name implies, is intrusted the care of the village. They believe, to use their identical words, that "should he withdraw his favour, the evil eye would glare upon their children; sickness would devastate their hearths; the floods would sweep away the foundations of their homes; and their most favourite haunts would become the prowl of the tiger, and wild cat o'mount." Whenever a new shrine is to be erected, fresh stones are chosen, the village is tabooed for

seven days, sentinels are placed on all the surrounding heights to prevent the ingress or egress of any person, and sacrifices of fowls, and pigs are made. Around each stone is wound some cotton thread, coloured yellow with turmeric.* These objects however are still further curious, for it will be perceived by inspecting the plate that they are rough representations of the *lingum*, and *yoní*. The colouring with turmeric is Boodhistic, for yellow is the sacred and royal colour of Boodhism. In the simpler types of Boodhism which have come under my observation, whenever the worship of the powers of nature has been introduced, it has been invariably that of the united male and female; of which the latter has been the most powerful. This is the true explanation of those monuments which abound in the Cossyah hills, figured in a very interesting paper from the pen of Lieut. Yule, in a volume of the Journal of the Asiatic Society of Calcutta. Another interesting fact illustrated by these objects, is the invariable predilection of the human mind to identify the object of its worship with the realities of its every-day life. This circumstance might be exemplified by instances throughout the whole history of man; whether we take the objects of worship themselves, as that god, "downwards fish, and upwards man," worshipped in the fish coasts of Azotus; or their consecrated residences from the dark cave temples of the Troglodyte, to the spired fanes of the dweller in tents. And, as we shall see, whilst the *Toungtha*, or "Son of the Hill," looks for sustenance to the clearings of the forest patch, or the scant verdure of his rock-bound hills, and conformably represents the idea of his adoration; so here we find the "Child of the Stream" fitly choosing from the rolled pebbles of his parent flood a simple fetich, wherewith to identify the object of his worship, and his love.

THE KHUMIS.

The *Khúmís*, as I have already remarked, are a member of the general family of the *Toungthas*, or "Sons of the Hill." They are a numerous tribe, having several villages, each under a distinct *Toungmeng*, or "mountain chief." This authority appears originally to have been

* These stones are represented two-thirds their real size in Plate I, fig. *a* being the female, and fig. *b* the male. They are shewn erect for the sake of giving their forms; they are in reality however placed lying down in a flat position; each having a sort of baby house erected to receive it; they are in the Plate shewn in their relative positions with one another.

hereditary; whilst in those villages within the British territory, it being necessary that the village chief should be acquainted with the Burmese language for the purpose of transacting Government business, an individual on account of such qualification is often raised to that dignity; and thus in some villages there exist two *Toungmengs*, the one hereditary, the other elected. The religious system of the *Khúmís* appears to be very vague; it consists of the worship of numerous *Náts*, or spirits, and indeed of every thing that strikes their fancy. They worship the earth as the author and giver of all they possess; the sun also, in its noon-day height, as the pledge of safety from their foes—for the attacks of these mountain tribes are never made except during the night; no single night passes over their head that is not replete with terror. They reverence also the spirits of the dead; these, they say, at times flit over their ancient haunts, at others wing their way like birds over mountain and vale. The spirits of the good they think ever happy, those of the wicked miserable. Each house likewise has suspended from its walls the skulls of the animals it may have killed for food; to these likewise they pay a simple adoration, by placing before each individual a handful of its wonted food, as an acknowledgement of the sustenance it has afforded them in its time. The skulls also of the animals slaughtered by their fathers are in like manner preserved as much in remembrance of those deceased relatives as a monument of their wealth; frequently will a chief point to them with pride, and tell you how many mountain bulls his father could spear for a marriage feast. Their religion may be said to consist of nothing but the worship of spirits; to every object that strikes their fancy, they accord a spirit of its own. Each peak in their native hills, they hold to be the mountain watch-tower of a god. Nothing could illustrate this better than the accompanying translation of part of a *Khúmís'* prayer. Previous to an undertaking or expedition he lets loose a fowl as an offering to the spirits, and utters the following: "Oh! spirit of the day-sun; Oh! spirit of the rock-ledged gate*; Oh!

* These are two very singular wall-like ridges of sandstone, running across the Kuladyne, about twenty miles the one above the other. They are not rocks like those of Colgong on the Ganges; but ridges perpendicular on each side, and only a few feet in width; the river has forced itself a passage through the centre. The tradition is that when the spirits found their domains invaded by a new faith from the plains, they endeavoured to raise a barrier; this was forced: a second attempt in like manner failed, and in despair they have given up the idea of a third.

spirit of the streams of the *Hoosalong**; Oh! spirit of the surges of the *Kolak*†; Oh! lords of the mountain peaks‡; One, two, three, four, five, six, seven, eight times; take ye this my offering."

Every object which is in motion they conceive to be so, in virtue of a spirit, and a motion of its own: in fact to be animate. This is a belief which has been shared by all primitive and savage tribes; and is one that will at once appear to be most natural. The simple savage, judging from the movements of his own person, gives a spirit and a will, as inherently the cause of movement in all things. It is the predilection of the modern mind to count all as phœnomena; the cold results of causal agencies beyond. And when in this its last stage the mind carries itself back to the first; when it spiritualizes the dull realities of this every-day world; and writes down every sensuous object in nature as impelled by a spirit and motion like its own; then, having achieved a communion with all existing things, it becomes seized of the highest poetry, and purest ideality. This is the simple reason why the poetry of a rude age is to us, as rich in its ideality as is that of the most polished epoch. In this respect the human mind may be conveniently classed into three stages—The 1st and savage, where it believes all objects whatever to have life and spirit. The 2nd, where it has so far advanced as to accord a separate individuality to the spirit, and to hold that, like a guardian, it presides and watches over the inanimate. And finally, the 3rd and last, that which we have above described. Those peculiarities which are the source of poetry in the last, are unideal, mere common place matters of belief in the first. And even in poetry, such as that of Homer, which we may look upon as the annals of the mind in what we have described as its second stage, many of those wondrous figures which appear to us, the living transcripts of mysterious portraitures traced upon the secret wall of the chambers of the poet's imagery, may in reality be but the simple and unimaginative record of the beliefs of his every day existence.

The *Khúmís* have no religious superiors, although they pay a certain respect to some who, profess to have converse with familiar spirits.

* The name of a stream among the Hills.

† The original is *vóm* of the *Kolak*, the latter being the name of a stream; *vóm*, in their dialect is a place partaking of a character of both, a waterfall and a rapid: at the mouth of the *Kolak*, the river rattles its way over a shallow rapid, and being impeded in its course by a great number of ridges of rock, it has the appearance of a huge seething chaldron.

‡ Here they generally enumerate the most remarkable peaks.

When a man marries, he gives what he can to the parents of his bride, feasts his native village, and the ceremony is concluded. The dress of the *Khúmí* female, in common with that of the *Toungthas*, is a parody on Eve's apron; the men have a small cloth over the loins but are still next to naked; the women wear a petticoat about a cubit in length, which is kept on in a most indescribable manner by heavy strings of brass rings. They have a singular tradition accounting for the scantiness of their costume. In former ages, say they, all the world was of one tongue, and of one kind; there was then a god upon the earth—his name they do not know,—when he was about to depart from among men, he divided them into nations and tongues, and gave to each the peculiar costume by which it was to be distinguished. The poor *Toungthas*, however, were at the time wandering over their native mountains, and engaged in their plantations in the hills, so that they came last. The god told them he had given away all that he had, except one small piece of cloth, a cubit broad, which their women were to wear; the men to shift as they could. The only visible objects of worship of the *Khúmís*, are the trunks of three or four trees, which have been cut down in clearing a space for the village; also the same number of pillar-like stones. These are fixed in the earth together, in the middle of a large shed, which is also employed as the place of reunion and festivity of the village.

The cultivation of the *Toungthas* is styled *Jhoom*. A hill, the best covered with vegetation, is cleared, the rubbish burnt to fertilize it, and the space sown with an indigenous species called hill or red rice. As the soil on these steep hills is necessarily scanty, and becomes more liable to be washed away by the periodical rains when denuded of its forest covering, a piece of ground rarely yields more than one crop; in each successive year other spots are in like manner chosen, till all those around the village are exhausted: a move is then made to another locality, fresh habitations are erected, and the same process gone through. These migrations occur about every third year, and they are the means by which long periods of time are calculated; thus a *Toungtha* will tell you that such and such an event occurred so many migrations since. In forcing one's way through the forest, one often comes suddenly on a deserted village, which presents a peculiarly melancholy appearance; a dense vegetation rapidly reclaims it as a domain of ancient wood; the very bamboos long since decayed and old, the materials of a once merry home, become covered with luxuriant creepers, and appear mockingly to vegetate

with a new-born life at the absence of man. Compelled thus to wear away an errant life, and in continual dread of being massacred by their foes, the poor *Toungthas* know not what comfort or secureness is; all their valuables are secreted in some hidden cave, known only to themselves. Should the maiden weave for herself a choice petticoat, or the young man fashion a favourite bow, it is forthwith taken and stowed away: and yet, in spite of all, they are a merry and laughter-loving race, fond to a passion of beads, with which they profusely decorate every thing that belongs to them: one little *Khúmí* damsel showed me her pet pipe so ornamented.

Having thus endeavoured to give a general sketch of the *Khúmís*, I will proceed to a few remarks on their language.

The *Khúmís*, in common with all the *Toungthas*, have no written characters. Their dialect is evidently cognate to the Burmese, that is, the pure and original Burmese, but it presents itself under the harsh type of the Arracanese, not softening down any of its sounds in the usual manner of the Burmese language. It is monosyllabic, and expresses the relations of its parts of speech by means of affixes; of these some seem to be merely euphonic, as *mă, gă, vă, tă*, &c., these generally occur between the root and its affixes. In like manner, for the sake of euphony, some of its roots are slightly inflected, as *tchau*, "to eat," when preceding the past affix *bau*, or *bauk*, is changed into *tcha*. It is moreover necessary to premise that all final consonants such as the *k* in the above word *bauk*, are invariably mute, that is, not pronounced, but *formed* in the mouth. Indeed by a person whose ear was not rendered sensible to the value of these finals by an acquaintance with the Burmese language, of which they are a marked characteristic, the above word *bauk*, would be written *bau*. As we might expect in a rude, and unformed tongue, the affixes, above alluded to, are omitted whenever the sense can be conveyed without them; as *kai*, 1st pers. pron. and *pè*, "give," form *kai pè*, "give me," or it might equally convey "I give;" *kai*, "as above," and *yu*, "wife," *kai yu*, "my wife;" *bok* "food," and *tchau*, "eat," *bok tchau*, "eat food."

NOUNS.

Mau signifies "in;" as *um mau*, "in the house." *Hloyó*, "under;" as *um hloyó*, "under the house." *Hí loungó*, "on the top of;" *um hí loungó*, "on the top of the house." *Téó*, "near;" as *um téó*, "near the

house." *Báó*, "from;" as *um báó*, "from the house." *Brăn*, "outside;" as *um brăn*, "outside the house." *W'ó*, "by or by means of." The final *ó*, in all these, implies "to, towards," which sometimes for the sake of euphony, is pronounced *vó*.

Tchee is the affix of the plural number with nouns, but it is not made use of when numerals are employed, they being sufficient to express plurality; as *um*, "a house," and *nú*, "two;" *um nú*, "two houses."

Like the Burmese, the *Khúmís* have only one affix to express the *female*, whilst several affixes express the *male* of animals.

Tchíău is a male affix for human beings. *Tchă* is a female affix for human beings. *Nú* is the general female affix. *Poh* is a male affix; as *tchí poh* "a son;" *tchí nú*, "a daughter."

P'ting, is a male affix for large animals; as *tchíe p'ting*, "a bull;" *tchíe nú*, "a cow." *Painoh p'ting*, "a male buffalo;" *painoh nú*, "a female ditto." *Kounggnau p'ting*, "a stallion;" *kounggnau nú*, "a mare." *K'sai p'ting*, "a male elephant;" *k'sai nú*, "a female elephant."

Loh is a male affix for smaller animals; as *úí loh*, "a dog;" *úí nú*, "a bitch." *Miyaung loh*, "a male cat;" *miyaung nú*, "a female cat." *A'úk loh*, "a male hog;" *áúk nú* "a female hog."

Lúhi is a male affix for birds; as *áa lúhi*, "a cock;" *áa nú*, "a hen." *Tawo lúhi*, "a male bird;" *tawo nú*, "a female bird."

Hái is a superlative affix; as *hauí hái*, "very beautiful."

VERBS.

The relations of verbs are expressed by affixes.

Au is the substantive verb; as *kai au*, "I am."

The present tense has properly no affixes; as *yé*, "to fear;" *kai yé*, "I fear."

The future tense and present tense are often used synonymously.

There is an affix *tán*, implying present time, used with some roots signifying "quality;" as *khŭmdi tán*, "is cold," *roch tán*, "is dear;" but it is very irregular in its application.

The future is formed by the addition of the affix *nák*, which, when the roots end with a mute consonant, often has the euphonic vocal *gă* intervening; *kai tói nák*, "I speak, or will speak;" *kai tchĕk gă nák*, "I go, or will go."

The past tense is expressed by the affix *bauk;* as *kai tchĕk bauk,* "I have gone."

The imperative is expressed by the simple root, and is distinguished from the present tense by having no nominative case.

Mŏn, or *maun,* are interrogative particles.

With reference to the negation of sentences, there appear to be various negative particles. *B'* is used to negative the substantive verb: as *kai b'au,* "I am not." *Mok, mauk, auk, au, ămón,* are all variously used as particles of negation, the first two are prohibitive.

They do not appear to have an affix of number for verbs; the noun which is the nominative being sufficient to shew the time of the verb; as *kai tchĕk gă nák,* "I go, or will go;" *kai tchee tchĕk gă nák,* "we go, or will go."

In the formation of sentences, the nominative comes first, the objective next, and the verb last. There are however some cases in which this order appears varied.

NUMBERS.

We now come to the mode of numeration, and in this dialect it presents some interesting peculiarities. The numeral system of the *Khúmís* is emphatically decimal; of the ten fingers. It is moreover so intricate as to be somewhat difficult of explanation. This fact admits us into a very peculiar phase of "savagery." We are apt to consider the mode of reasoning and every thing appertaining to an uncivilized race, as necessarily bearing the impress of simplicity: and this may be said to be generally the case, but at times the savage mind seems to take to itself flights of intricate and almost obfuscated reasoning.

The first peculiarity which we shall notice is, that the decades, or multiples of ten, up to hundreds have two names; thus as they count on their fingers when they get to "twenty," they call it first *horé laik horé,* which means literally "ten and ten," and then throwing their fingers on an imaginary heap they exclaim *apóng ré,* "a score," and so on. *Ré* is an affix used with numbers, and implies "full."

The next circumstance to be noticed is, the number of different terms used to convey the idea of "and, more."

1, *hnák.* 2, *nu, (u,* like the simple French *u).* 3, *t'hoon.* 4, *p'lu.* 5, *páng.* 6, *t'ru.* 7, *s'ru.* 8, *téya.* 9, *t'khau.* 10, *ho,* or *horé.* 11, *horé laik hnák.*

(from here *laik* implies "and, more"). 19, *horé laik t'khau.* 20, *horé laik horé*, or *apóng ré.* 21, *apóng p'hai hnák*, (here *p'hai* commences to convey "and, more"). 29, *apóng p'hai t'khau.* 30, *apóng p'hai horé*, or *p'hairé.* 31, *p'hairé p'lu hnák*, (here *p'lu* conveys "and, more"). 34, *p'hairé p'lu p'lu.* 39, *p'hairé p'lu t'khau.* 40, *p'hairé p'lu horé*, or *wí p'lu ré.* 41, *wí p'lu páng no hnák*, (here *páng no* represents "and, more"). 44, *wí p'lu páng no p'lu.* 45, *wí p'lu páng no páng.* 50, *wí p'lu páng no horé*, or *wí páng ré.* 51, *wí páng t'ru hnák*, (here *t'ru* expresses "and, more"). 55, *wí páng t'ru páng.* 56, *wí páng t'ru t'ru.* 60, *wí páng t'ru horé*, or *wí t'ru ré.* 61, *wí t'ru s'ru hnák*, (here *s'ru* expresses "and, more"). 66, *wí t'ru s'ru t'ru.* 67, *wí t'ru s'ru s'ru.* 70, *wí t'ru s'ru horé*, or *wí s'ru ré.* 71, *wí s'ru téya hnák*, (here *téya* represents "and, more"). 77, *wí s'ru téya s'ru.* 78, *wí s'rú téya téya.* 80, *wí s'ru téya horé*, or *wí téya ré.* 81, *wí téya t'khau hnák*, (here *t'khau* conveys "and, more"). 88, *wí téya t'khau téya.* 89, *wí téya t'khau t'khau.* 90, *wí téya t'khau horé*, or *wí t'khau ré.* 91, *wí t'khau ho hnák*, (here *ho* expresses "and, more"). 99, *wí t'khau ho t'khau.* 100, *wí t'khau ho horé*, or *tchoon wairé.* 101, *tchoon wairé aikhlók hnák*, (here *aikhlok* signifies "and"). 110, *tchoon wairé aikhlók horé.* 120, *tchoon wairé aikhlók apóngré.* 200, *tchoon wai nuré.* 202, *tchoon wai nuré aikhlók nu.* 303, *tchoon wai t'hoon ré aikhlók t'hoon.* 1000, *tchángré.* 2000, *tchángnuré.*

1845 would be thus written—*tchángré aikhlók tchoon wai téya ré aikhlók wí p'lu ré páng no páng.*

It will be remarked in the above, that not only for 31 do they say "thirty and one," or "thirty more one;" and for 45 "forty and five," or "forty more five;" but that moreover they have several different terms to express this increment "and, more." We will recapitulate them. Between 10 and 20, the term is *laik;* between 20 and 30, it is *p'hai*, which it will be seen is likewise the term for "thirty;" and from "thirty" upwards each decade has the unit next above its own to represent the increment "and, more." Thus the third decade, that of "thirties," has "four;" and for "thirty *more* one," they say "thirty *four* one," &c. The fourth decade, or "forties," has "five," and for "forty *more* five," they say "forty *five* five;" and so on with the rest. Above a hundred, *aikhlók* represents the same term.

It would not be easy to give a reason for this peculiarity, unless perhaps that the true "more" of a number is the one immediately

above it; and that therefore the "*more*" of the third decade is aptly "four," and so on. It will be remarked, that from 40 to 90, the term *wí* represents "ten;" thus *wí*, "ten," and *p'lu*, "four," make *wí p'lu* "forty." It will be moreover perceived, that between 40 and 50, the term *pangno*, is used instead of *pang*. It is probable that the first is the correct term, and that the latter is merely an abbreviation. The name *t'hoon*, "three," is the same as in the Burmese language, only that in the latter it is pronounced softly *thoon*. The term *pang* or *pangno*, "five," is evidently derived from the same root *pănya*, "wisdom," as is the Pali term *pĕgntsa*, "five."

A peculiarity which so remarkably characterizes the Indo-Chinese languages does not exist in this dialect; and that is, that there are no numeral generic affixes; thus *um*, "a house," and *nu* "two," are sufficient to express "two houses." In the case however of human beings there is a kind of adjunct used either with or without numerals; as *khúmí*, "a man;" *khúmí laungnu*, "two men;" *tchípau*, "a child;" *tchipau laung t'hoon* "three children."

THE KYAUS.

There is only one village of this tribe in existence; it is situated on the banks of the Kuladyne, and in the midst of the large clan of the *Khúmís*. The *Kyaus* relate that their tribe was originally numerous, but that now this single village is all that has been spared from the attacks of the *Shentoos* and other powerful neighbours. The *Kyaus* are viewed by the rest of the *Toungthas*, with a kind of estrangement; few among these latter being able to master their dialects. The first thing that strikes one on entering the village of the *Kyaus* is their marked difference in physiognomy from that of all the other hill tribes. Indeed the general physiognomy of the *Toungtha* is a Tartar-like family face, but the *Kyaus* in feature, dress, and appearance could scarcely be distinguished from the lower class of the Bengali peasantry of Chittagong. The *Khúmís* are fair, with small features: the *Kyaus* are dark, with large features. The *Khúmís* invariably wear a cotton head-dress, and their hair tied upon the crown, and shave no portion of their head: the *Kyaus* on the other hand shave a few inches of hair from the forehead, tie it low down on the

neck, and wear no head-dress. On first seeing them I felt convinced that I had fallen in with the original type ; the etymon, as it were, of the Bengali. Though repeatedly asked whether they had any tradition of having come from Chittagong, they invariably replied they had none. On this however much stress could not be laid, as from the wandering and miserable life they lead, no tradition could well extend among them above a couple of hundred years. I consequently turned to their language, and found it presenting the marked characteristics of the dialects of Trans-Gangetic India, being monosyllabic, and having affixes to express the various relations of its parts of speech, and even not possessing the euphonic inflexions which sometimes occur in the *Khúmí*. If the *Kyaus* are an archaic type of the Bengali, as their extraordinary physiognomical similarity and their marked estrangement from the tribes around renders to my mind most probable, it goes far to prove that the original dialect of Bengal was monosyllabic and consequently rude; and that its nature and structure has been entirely revolutionized by the polished polysyllabic languages of Hindoostan. The *Kyaus'* ideas of worship are very rude and simple like that of the rest of the hill tribes. They erect upright stones in different portions of their village, which they consecrate to the *Nâts*, or spirits of the hills.

With reference to the dialect of the *Kyaus*, not having had the same time at my disposal, or the same means of making enquiries into it, as I had for that of the *Khúmís*, my remarks are necessarily more scanty. The *Kyaus* dialect, as has been already remarked, is monosyllabic, and possesses affixes.

Ka is the nominative affix, chiefly used with a noun, in construction with a verb in the present tense; in which case the verb dispenses with its own affix of time. This idiom is singular, as it shows that the time of the nominative case, and that of the present tense are the same. *T'k'té*, or *t'k'tau* are future and present affixes. The two finals *té* and *tau*, I suspect to be nothing more than expletive. In this dialect as well as in that of the *Khúmís*, the future and present tenses are the same.

Mau, affix of the interrogative mood, occurs last in a sentence after all others. It may also be applied directly to a noun without the intervention of the substantive verb, as *sípa* " child," and *mau* interrogative from *sípa mau* " child ?" *i. e.* " Have you any children ?" This is one of abundant instances of how crudely ideas are expressed among a rude people.

Rau and *t'rau;* imperative termination: as *tshé* "to go," *tshé t'rau,* "go." *Mă* is a negative affix, and always occurs *after* the root; as *tshé m'rau,* "dont go." In this it differs from most dialects, the particle of negation, generally and correctly, preceding the statement of the act which it is meant to cancel. In asking however a negative question, the order is somewhat varied. The interrogative pronominal occurs first, the negative next, then the personal pronoun, and finally the verb; thus *arong,* "why—" *ma,* "not—" *na,* "you—" and *houng,* "come," make *aroung ma nahoung,* "Why don't you come?" In this case it is peculiar that the interrogative model-affix is not used, the interrogative pronominal being sufficient to mark the clause to be a question.

Ak is an auxiliary affix of negation used only with the substantive verb *ám,* "to be," in which case the true negative *má* is united with it, into one word *m'ak*; *m'tshál* "husband," *am* "is," *m'ak* "not."

Ien is likewise an auxiliary affix of negation, similar to the Burmese *bhoo;* as *tshé m'ien* "(I) won't go."

NUMBERS.

The numeral system of the *Kyaus* is not intricate like that of the *Khumis.* It is decimal.

1, *khát.*—2, *niek.*—3, *t'hoom.*—4, *m'lí.*—5, *nga.*—6, *órook.*—7, *s'ree.*—8, *rúet.*—9, *kó.*—10, *tchúom.*—11, *s'mré khát.*—12, *s'mré niek.*—13, *s'mré t'hoom.*—20, *tchúom niek.*—21, *tchúom niek lé khát.*—22, *tchúom niek lé niek.*—30, *tchúom tchoom.*—33, *t'chúom t'hoom lé t'hoom.*—40, *t'chúom m'lí.*—50, *tchúom nga.*—60, *tchúom órook.*—70, *tchúom s'ree.*—80, *tchúom rúet.*—90, *tchúom kó.*—100, *r'za.*—101.—*r'zalé khát.*—200, *r'za niek.*—222, *r'za niek lé tchúom niek lé niek.*—1000, *sankha.*— 2000, *sankha niek.*—1846, *sankha lé r'za rúet lé tchúom m'lí lé órook.*

It is to be noticed that one very peculiar and characteristic idiom of the Indo-Chinese languages, such as the Burmese, Siamese, Malay, is entirely wanting, as far as I could make out, in these two dialects above described. I allude to numeral generic affixes. The numeral, as in English, is placed in immediate relation with the noun, whereas in the others it is placed in relation to a generic affix; as where the Burmese say "dog," two animals; the *Kyaus* and *Khúmís* say merely "dogs two." But still as these hill dialects are so evidently cognate to the Burmese, it is singular if they do in reality lack so characteristic a trait; and

therefore I cannot but suspect, that a better acquaintance with these dialects would reveal them; and that I was unable to make myself understood in that part of my enquiries.

None of the tribes to which we have referred in the above pages are in possession of any alphabetical system. Unless indeed we except the *Khyoungthas*, who being in reality pure Arracanese, have consequently the Arracanese or Burmese characters. With reference to the remainder, it is as yet a matter of doubt, among those who have turned their attention to the subject, whether, for the purposes of education, their dialects should be adapted to the Roman, or the Burman alphabet. With reference to the first, the only thing that can be said in its favour is, that it will save their European instructors the trouble of learning the Burmese alphabet. With reference to the second, a crowd of arguments appeal in its favour. In the first place all these dialects are evidently cognate to the Burmese language, not only so in sound, but also in structural peculiarities; all their finals are exactly similar to those of the Burmese language, being required to be formed in the mouth but not uttered; this single peculiarity, which in Burmese is represented by a mark called *that*, would require some outlandish configuration to be conveyed in an European alphabet. Secondly, the instruction which these people could possibly receive *directly* from European instructors must be comparatively small; as with the exception of a few short months, their mountain-fastnesses are inaccessible to an European constitution; and therefore native teachers formed in the plains, where Burmese is vernacular, would necessarily become the principal instruments. Thirdly, the Burmese language is used as the medium of communication with the English Government, and therefore there are always a number of persons in every village familiar with it. Fourthly, there are fewer sounds foreign to the Burmese than to the English language. I remarked but two, viz. the *v* in "*van*," and the *u* in the French "*plume*," "a feather;" these could easily be supplied by characters conformable to the general type of those of the Burmese alphabet; as has been done by the American Missionaries at Tavoy in the case of the *Karen* language.

In the following list the coronna as in the word *p'laung*, represents the *a* considered by the Burmese as inherent in every consonant, similar in sound to the first *a* in "papa:" the *u* with a dot under it represents the *u* in the French word *plume*, "a pen." The other accentuated letters will explain themselves.

English.	*Burmese.*	*Arracanese.*	*Khúmí.*	*Kyāū.*	*Bengali.*
air	lé	lí	alí	khlí	boiy'r
ant	pĕrwottshiet	pĕróttshiet	paleng	m'rtshi	hpín yrá
arrow	hmyá	mrá	tái	t'har	tír
bird	gnhĕt	gnhák	tawó	vá	thórói
blood	thwé	thwí	t'hí	t'hí	lóh
boat	hlé or thăm-bhán	hlí	p'laung	m'laung	náón
bone	ăyó or yó	ăró	ăhók	rú	hánr
buffalo	kywai	kywai	painoh	chaláwé	mónhis
cat	kyoung	kroung	míyaung	meng	bílé-í
cow	nwámă	nwámă	tchí-nú	charráp'nú	gái
bull	nwáhpó	nwábóh	tchíp'ting	charrá tsál	arú
crow	kyēē	tchăgīn	óák	w'-á	qáooá
day	né	răt	ní	níding tá	din
to-day	khŏné	goní	wănní	——	ájiya
sun	né	nín	k'ní	ní	thoorúj
to-morrow	nĕthpăn	hnaprăn	kondam	——	kulya
yesterday	yămăné	yamăné	vandoo	——	kulya
dog	khwé	khwí	úí	úí	koonr
ear	ná	ná	kánnăŭ	ná	kán
earth	myé	tamīn	k'l-lóng	níung	bhooín
egg	ăoo	ăoo	k'dúl	ărtúi	bauda
elephant	tsheng	tshan	k'sái	sái	hátí
eye	myĕttsie	myatsie	ămík	mĕ-et	thókh
father	ăhpă	alıpa	ng'-á-í	pá	bábá
fire	mēē	meen	mái	mâ-í	ágún
fish	nga	nga	ngăŭ	——	máns
flower	păn	pan	k'tshón	——	fooll
foot	khyé	khrípoá	ăkók	——	t'héeng
goat	tshiet	tshiet	m'è	kiear	sághul
hair	tshăn	tshăn	tchám	tchám	thúl
hand	lĕt	lát	ăkú	kúet	hát
head	ookkhoung	oogoung	ălú	lú	mát'há
hog	wĕt	wát	ăúk	vauk	hoorr
horn	gyó	gró	t'kí	——	thíng
horse	myĕng	mrán	kaunggnăŭ	korá	gorá
house	ieng	ieng	um	ceng	ghórr
iron	thău	thăn	t'măŭ	tírr	lóar
leaf	ărwĕt	paroa	ăgnám	ărr-nú	pháthá
plaintain leaf	nghĕt pyaurwĕt	ngha pyauroa	tchaung gnám	kiluen na	kélá kă pháthá
plaintain	nghĕt pyau	ngha pyau	kúttí	kiluen	kélá
plaintain fruit	nghĕt pyau thēē	ngha pyau thee	kúttíătáit	ămrá	kélá p'hol
dawn light	leng	lan	kúwang	kawátá	bhor
mankind	loo	loo	khúmí	m'tshí	mánoos
monkey	myouk	myouk	h'láit	j'ńang	bandur

English.	*Burmese.*	*Arracanese.*	*Khúmí.*	*Kyāū.*	*Bengali.*
moon	lă	lă	lăŭ	khya	chán
mother	ămie	amie	gna-au-í	noo	mán
hill	toung	toung	măŭ-í	kh'láng	phár
mouth	khăndwĕng	pátsa	l'baung	m'khá	moonkh
musquito	khyĕng	khrán	cháng-ráng	tcheen-tchámp	mónsha
name	amee	namee	ă-mún	n'rmíng	nám
night	gnyee	gnyee	wúm	kulloh	ráit
oil	tshēē	tshee	ătauk	tchírut	téil
river	myeet	mriet	yangpáng	típó-e	dórdjeá
road	lăm	lan	lám	lámm	p'hónt
skin	ăré	aré	ăpik	ăvún	sám
sky	koungkeng	goungkan	k'ní	mítshŏm	áthmán
snake	mywé	mrwí	púwí	mrúí	hánp
star	kyay	kray	k'tshí	ărshí	tárá
bracelet	lĕtgouk	lagŏk	k'tshí	——	károo
stone	kyouk	kyouk	lóngtchaung	lúng	shíl
tiger	kyá	kyá	t'kái	kăŭí	bákh
tooth	ăthwá	thwá	haw	há	dánt
tree	theetpĕng	theetpan	díngkaung	tíng	gáas
fruit	ăthēē	athēē	ătáit	——	p'hól
village	ywá	rwá	ăwáng	kó	p'hára
water	yé	rí	túí	tói	p'hání
yam	myoukōō	myoukōō	ăhó	bál	áloo
wife	mĕyá	mieyá	ăyú	napoí	bóh
husband	lĕng	lan	yú-wó	m'tshál	khushum
white	hpyōō	hproo	k'loong	ăgnoung	dhóph
black	mee	mee	p'noong	ăvaum	kálá
red	nēē	nee	p'líng	ătshen	láll
blue	pyá	gnyoo	k'dáp	ărait	măshyeh
good	koung	koung	ăhauí	atshá	gómm
bad	tshó	tshó	hauí-auk	tsha măk	khráb
beautiful	hlă	hla	ăhauí	ămenhlá	shoondur
ugly	măhlă	mahla	ăkoochí	tsha măk	gómm noi
I	nga	nga	kái	keema	ámie
thou	thĕng or nĕng	than	nán	nama-tá	t'hoomí
he and she	thōō	thōō	ní	nengmăgata	ói
to go	thwá	la	tshĕk	tshé	jáná
to fear	kyouk	krouk	yé-e	tchí	dórr ash
to be	shie or hie	hie	aun	ám	áshie
to give	pé	pí	pè	pé	déna
to speak	pyau	prau	tói	tchong	khótá khau
to come	*la* or youk	la rouk	youk	houng	ái
here	theehma	diĕhma	hee	tó	eenyŭt

English.	*Burmese.*	*Arracanese.*	*Khúmí.*	*Kyāū.*	*Bengali.*
year	ăhneet	ahneet	——	khúm	busr
milk	nó	nó	——	tehok	dhoot
child	ăkhălé	ashay	doungdí	——	hpooá
offspring	tha	tha	tehípau	sípá	hpooá
male (man)	youkyá	youkya	noungboo tehiáú	m'tshí	morod
female (woman)	miemmă	miemmă	noungboo tehă	n'pang	máiyunla
a boy	loogălé	kolay shay	noungboo tehiáú doungdi	m'tshál	morod hpooá
a girl	miemmă gă-lé	miemmă shay	noungboo tehă doung-dí	noukté	máiyunlá hpooá

The following is a list of *Khúmí* words. The English is the meaning they have in that dialect. The Burman is the term that comes nearest to them ; although often the Burman term does not express all the meanings of the *Khúmí* one.

Burman.	*Khúmí.*	*English.*
hluot	p'th'lau	to abandon, leave, let go
shie *or* hie	aun	to be, remain, abide dwell in
hnŏíng	pyák	to be able, can
hpooăt *or* khyó	ăhóp	to bathe, wash
hpooăt	t'mooi	to rub
htá	khăt	to put, or place
shé	mon	front
ăpáú	hiloung	above
thó	wau	to, in direction of
nouk	ningthon	behind
tshairé	angyok	to abuse, insult
pyoo *or* look	pan	to do, act, work
ienghtoung	póng	marry a husband
ienghtoung	neng	marry a wife
théthwa	dók	to die
shĕng	ahíng	to live
yay	pănoo	to laugh
gnó	ăwóh	to cry, weep
shŏikshoo	ătăhó	to breathe, pant
goo-yăkhoo	wái	now, soon
kó kókway	āūí	to worship
hóh-hma	hóh	there
wa	p'lóp	cotton

Burman.	*Khúmí.*	*English.*
hneet thĕt	gnaing	to love, to want
kya	klá	to fall
mógh ywá	k'ní năĭk	to rain
ătoo	wán ré	alike, similar
aáloon	pèpè	all
tsiet tshó	p'lu naí	angry
khyá-t'khyá	tăkă *or* krá	another
iet	ă-í	to sleep
nó	anlau	to wake
iet	tchă khón	a bag
htoung	htoung	a basket
wá	úvv	a bamboo
khá	ăkhó	bitter
khwai	khéí	to break, snap
yoo	youhai	to bring
yoo	lóh	to take
meeloung	p'tau	to burn
thenggyóh	ōō	to bury
khāū	hăĭn	to call
hpăn kŏing	p'too	to catch, hold, seize
ăhpó-nee	ătien	cheap
ăhpómyá	rŏik	dear in price
khyam	khŭmdí	cold
ătsiet	amái	a bead
tsiet pădie	lăĭng	a necklace of beads
kyĕt	áa	a fowl
hlēē htoo	báik	to cut, carve
tsootswot	tehooí	wet, damp
thé thwá	d'wí	to die
nĕt	htók	deep, as water, also to drag,
thouk	nă-í	to drink [pull, draw
thwé	p'hooí	dry
pyee	khóí	full
ălăt	k'khók	empty
thee	hí	this
dăyay thăměng	tehoo tchook	a deer
oodoung	touk dái	a peacock
ătoung	ămó-í	a feather
toungpăn	p'khí	a wing
nwé poo	bhí	warm
yă	ná	to find, get, obtain
twé	ă-wóm	to meet with, find
khyoung	tawó	a stream, a bird
pyăn	ankhan	to fly as a bird
kăzá	ámák	to play, jest, amuse
phŏrá	k'ní y'lóng	God

Burman.	*Khúmí.*	*English.*
thé nat { "the angel of death"	máí { mái "fire" pauk "tube"	a musket
bhayhneet	ayé ré	how many
htămĕng	bók	dinner

The Bengali terms given in the first part of the above are those of the dialect of Chittagong. With reference to the *Khúmí and Kyāū*, there are some that are interesting, as presenting instances for that predilection to onomatopæia so characteristic of archaic dialects. The first we will notice is the term *tawó*, a sound which may be heard echoing through the still forest, and emitted by many of its winged denizens. The next *oák, and w'-á*, especially the first, admirably represent "a crow." The term *úí* "a dog" is uttered with a strong and sudden intonation on the first syllable; it is a sound constantly in their mouths employed to frighten those animals from their never-varying occupation of pulling every thing about in search of food. It is probable also that the Burman term *khwé*, had the same origin. The terms *m'-è* "any thing of the goat species," and *ăúk* "a hog," *mí-yaung* "a cat," are likewise instances of the same kind. It will be remarked, that in the *Khúmí* dialect the term for "Sun" enters into composition for that of "God;" as also that in Burmese, *Khúmí*, and *Kyāū*, the term for "Sun" conveys also the idea of "day," in contradistinction to "night."

The stated monthly meeting was held on Wednesday evening, the 7th of January, W. B. O'Shaughnessy, Esq., M. D., senior member of the Committee of Papers, in the chair.

The Proceedings for the month of December were read and confirmed.

The Secretary referred to what had passed at that meeting in reference to an Iron Railing, and it was resolved that the following gentlemen be nominated a committee to take this matter into consideration:

Captain Marshall, B. N. I.

W. Tayler, Esq. C. S.

R. Frith, Esq.

W. Elliot, Esq., Madras C. S. was ballotted for and declared duly elected and the following new member was proposed:

Lord Arthur Hay.

Proposed by E. Blyth, Esq., seconded by R. Frith, Esq.

The following gentlemen were also elected as members of the committee of papers for 1846:

G. A. Bushby, Esq. C. S.

J. R. Colvin, Esq. C. S.

W. Tayler, Esq. C. S.

The Secretary stated that, through the Rev. J. Long, Rájá Sreesh Chunder Bahadoor of Nuddea had placed at the disposal of the Society for copying, a portrait of his ancestor the learned Rájá of Nuddea, which was in the hands of a competent artist. The thanks of the Society were voted by acclamation to the Rájá.

Read the following list of books, presented, exchanged, and purchased:

List of Books received for the Meeting of Wednesday, the 7th January, 1846.

PRESENTED.

1. The Calcutta Christian Observer for December, 1845, and January, 1846.—By the Editors.
2. The Oriental Christian Spectator for December, 1845.—By the Editor.
3. Sepulchres of Ancient Etruria.—By H. Torrens, Esq.
4. Central America, Chiapas and Yucatan, 2 vols.—By H. Torrens, Esq.

5. General Report on the Sanatory condition of the labouring population of Great Britain.—By H. Torrens, Esq.

6. Actes de L'Academie Royale des Sciences, Belles-Lettres, et Arts De Bordeaux, vol. 5th. parts I. II. III. IV. and vol. 6th. parts I. II. III. IV.—By the Society.

7. Journal of the Royal Geographical Society of London, vol. 15th, part 1st, 1845.—By the Society.

8. Transactions of the Geographical Society of London, second series, vol. 7th, parts I. and II.—By the Society.

9. Life of Rammohun Roy.—By Babu Kissory Chand Mittra.

10. Proceedings of the Hindu Theo-philanthropic Society, vol. 1st, 1844.—By Babu Kissory Chand Mittra.

11. Religious Hymns in Bengalee, composed by Rájá Rammohun Roy, 2 copies.—By Babu Kissory Chand Mittra.

12. Philosophical Transactions of the Royal Society of London, for 1845, part 1st.—By the Society.

13. Proceedings of the Royal Society, for November, 1844.—By the Society.

14. Proceedings of the Geological Society of London, vol. 4th. No. 101.

15. Æsop's Fables in Ordoo. By J. F. Corcoran, Esq. (35 copies.)

16. Meteorological Register for September, 1845, from the Surveyor General's Office.

The London, Edinburgh, and Dublin Philosophical Magazine, Nos. 178, 180.—By the Editor.

Histoire des Sultans Mamlouks De L'Egypte, par M. de Quatremère.—Tome second.

PURCHASED.

17. The Classical Museum, No. 9.

18. Southey's History of Brazil, 3 vols.

19. History of Ancient Philosophy, 3 vols.

20. Journal des Savans for August, 1845.

21. The Annals and Magazine of Natural History, No. 105—September, 1845.

22. The Zoology of the Voyage of H. M. S. Sulphur, under the command of Capt. Sir E. Belcher R. N. C.B. F.R.G.S. &c. during the years 1836 to 1842, Nos. 4 and 5.

EXCHANGED.

23. Athenæum, No. 936, 937 and 938, for October, 1845.

24. The Edinburgh New Philosophical Journal, Nos. 77 and 78.

25. Proceedings of the Royal Society of Edinburgh, vols. 1 and 2, Nos. 25 and 26.

26. Transactions of the Royal Society of Edinburgh.

27. Mackerstorm's Magnetical and Meteorological Observations, for 1841 and 1842.

28. Proceedings connected with the Magnetical and Meteorological Conference, held at Cambridge in June, 1845, during the Meeting of the British Association for the Advancement of Science.

The Secretary presented the following list drawn up by Dr. Roer:

Abstract of the List of Books received into the Library from Jan. 14th, to Dec. 3d, 1845.

ENGLISH BOOKS.

1. Annals and Magazine of Natural History, vol. 14th, 1844, No. 92, 94, 96, 99, 100, 103 and 104.

2. Archæologia or Miscellaneous Tracts, relating to Antiquities.

3. Arnold (T.) Introductory Lectures on Modern History. Second edition. London, 1843, 1 vol.

4. Asiatic Journal and Monthly Register. Third series, vol. 9, November and December, 1844, Nos. 19 and 20; January, 1845, No. 21; No. 24. Fourth series; 1st vol. No. 1.

5. Athenæum, 1844, Nos. 844, 897, 1845, Nos. 898, 907, 913, 921, 923 and 935.

6. Beresford, (H. B.) Arabic Syntax, London, 1843, 8vo. 1 vol.

7. Blacker, (V.) Memoir on the Mahratta War. London, 1821, 4to. 1 vol.

8. Brougham, (H.) Political Philosophy. London, 1843—1844, 8vo. 3 vols.

9. Buist, (G.) Vid. Observatory at Bombay.

10. Calcutta Christian Observer, vol. 14, 1845, January to September and November.

11. Calcutta Journal of Natural History, 1845, Nos. 20—23.

12. Classical Museum, 1845, Nos. 6—8.

13. Correspondence relating to Persia, 1841, fol. 1 vol.

14. Ditto and Affghanistan, fol. 1 vol.

15. Crawford, (J.) History of the Indian Archipelago.

16. Donaldson, (J. W.) New Cratylus, Cambridge, 1839, 8vo. 1 vol.

——————— Varronianus. 1 vol.

17. Dawson, (J.) Geographical Limits, History and Chronology of the Chera Kingdom of Ancient India.

18. Elliott, (H. M.) Supplement to the Glossary of Indian Terms, 1 vol.

19. First Report of a Committee of the Statistical Society of London, on the state of Education in Westminster, 1837.

20. Gibson, (A.) Notes on Indian Agriculture. P.

21. Grey, (H.) History of Etruria, part 2.

22. Hamilton, (W.) Description of Hindosthan. London, 1820, 4to. 2 vols.

23. Heeren, (A. W. L.) Reflections on the Political Intercourse, &c., of the ancient Nations of Africa, 2 vols.

24. History of the Reign of Tippoo Sultan, 1 vol.

25. Hügel, (v.) Travels in Kashmir and the Punjaub, 1845.

26. India-House Papers, Marquess of Hastings, 1824, fol. 1 vol.

27. Ives (E.) Voyage from England to India. London, 1773, 4to. 1 vol.

28. Jameson's Edinburgh New Philosophical Journal, Nos. 73—75.

29. Jerdon (J. C.) Illustrations of Indian Ornithology.

30. Jomotjerna, (M. B.) Theology of the Hindoos. London, 1844, 8vo. 1 vol.

31. Journal of the Agricultural and Horticultural Society of India, vol. 3, parts 3 and 4: vol. 4, parts 1—3.

32. Journal of the Royal Asiatic Society, Nos. 15 and 16.

33. Journal of the Royal Geographical Society of London, vol. 13, part 2.

34. Latham, General Synopsis of Birds. London, 1781—1790, 4to. 10 vols.

35. Latter, (T.) Grammar of the Language of Burmah. Calcutta, 1845, 4to. 1 vol.

36. Lloyd, (H.) Lectures on the Wave-Theory of Light.

——--, Treatises on Light and Vision.

——--, (B.) Mechanical Philosophy.

37. London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, No. 162, Supplement, No. 163—177.

38. Maccleland, (J.) Vide Calcutta Journal of Natural History.
39. Macpherson, (J.) Natural History, Diseases, &c., of the Aborigines of Brazil, translated from the German of Dr. v. Martius. P.
40. Mantel's Medals of Creation, 2 vols.
41. Map of India, London, Allen and Co. 1845.
42. Maps, (5) of different parts of Asia. Berlin, Reimèr.
43. Martins, (v.) Vide Macpherson.
44. Meteorological Register from April to December, 1845.
45. Mill, (J. S.) System of Logic. London, 1843, 2 vols.
46. Muir, (J.) Address to the Students of the Benares College. P.
47. North British Review, Nos. 1—6.
48. Observatory of Bombay, Barometrical Observations. 1 vol.
——————— Magnetic Reports, May to December, 1843.
——————— Meteorological Observations for 1843.
——————— Report on the Meteorological Observations in 1842, by G. G. Buist.
——————— Tracings of the Wind-Guage, 1842 and 1843.
49. Oriental Christian Spectator, vol. 5th, No. 12, vol. 6th, Nos. 1 to 11.
50. Prinsep (H. T.) Historical Results from the Discoveries in Affghanisthan, 1 vol.
51. Proceedings of the Academy of Natural Science in Philadelphia, vol. 2, Nos. 2 and 3.
——————— Geological Society of London, vol. 4, Nos. 97—99.
——————— Royal Asiatic Society for 1844.
——————— Royal Society, No. 59.
——————— Society of Arts.
——————— Zoological Society, for 1843, 2d part, and January and March, 1844.
52. Report of the 14th Meeting of the British Association for 1844. London, 1845, 1 vol.
53. Report of the Metropolitan Commissioners in Lunacy. London, 1844.
54. Report on the Vital Statistics of Large Towns in Scotland. London, 1843. P.
55. Selections of Papers from the Records of the East India House. London, 1820—1826, fol. 4 vols.
56. Specimens of the Illustrations of the Rock-cut Temples of India. 1 No.
57. Strange, Elements of India's Law, 2d vol.
58. Sykes, (W. H.) Buddhism versus Brahmanism. P.
——————— Debate at the East India House.
——————— Inscriptions from the Boodh Caves near Joonar.
——————— Explanatory Notes, respecting 6 new varieties of vine.
——————— Notice respecting some fossils collected by W. Lonee.
——————— Remarks on the Identity of Personal Ornaments, sculptured on some figures in the Buddha Cave Temple at Carli.
——————— Measurement of Heights by Common Thermometers.
——————— Statistics of the Educational Institutions of the East India Company in India.
——————— Statistics of the Metropolitan Commission in Lunacy.
——————— Temple of Somnath.

——————— Three-faced Busts of Siva.

59. Thirlwall, (C.) History of Greece, 8th vol. Lardner's Cabinet Cyclopædia.

60. Todd, Discourses on the Prophecies relating to Anti-Christ.

61. Transactions of the Irish Academy.

——————— of the Society of Arts, vol. 55.

——————— of the Zoological Society, vol. 3. parts 2 and 3.

62. Usher's Works, vols. 2—13.

63. Walker, Livius, 7 vols.

64. Wall, Ancient Orthography of the Jews. 3 vols.

65. Whewell, Philosophy of Inductive Sciences, 2 vols.

——— History of Inductive Sciences, 3 vols.

66. Wray, (L.) Sugar-Planter's Companion, part 2d.

FRENCH.

67. Agassiz, (L.) Monographie des Poissons Fossiles. 1-2 livraisons.

——————— Récherches sur les Poissons Fossiles, 17 and 18 livraisons.

68. Annales des Sciences Physiques et Naturelles de la Société Royale de Lyon.

69. Brosset, (M.) Catalogue de la Bibliothèque d'Edchmiadzin. St. Petersb. 8vo. P.

——————— Déscription Géographique de la Géorgie, par le Szaréwitch Wakhousht. St. Petersb. 1842, 4to. 1 vol.

——————— Monographie des Monnais Arméniennes. St. Petersb. 1839, 4to. P.

70. Bullétin de la Société de Géographie. Deuxièm série. Tome 20, 1843. Troisième série, Tome 1.

71. Burnouf, (E.) Introduction dans L'histoire du Buddhisme Indien, vol. 1.

72. Collection Géographique de la Bibliothèque Royale. P.

73. D'armand, Documents and Observations sur le cours du Bahr et Abrial. P.

74. Florival, (V. de) Mékhitaristes de St. Lazare, Histoire d'Armenie, Venice, 1841, 1 vol.

75. Journal Asiatique, 4me Série, Tome 3, Nos. 13—23.

76. ——— des Savants, January 1844 to January 1845.

77. Mémoires de la Société des Antiquairs du Nord, 1840—1843, 1 vol.

78. ——————— de la Société de Physique de Genève, Tome 10, 2e Partie.

79. Siebold, (W. de) Lettre sur L'utilité des Musées Ethnographiques. Paris, 1843.

80. Tassy, (G. de) Rhétorique des Nations Musulmanes. Traduit du Persan. Paris, 1844. P.

GERMAN.

81. Akademischer Almanach der Baierischen Akademie der Wissenschaften für das Jahr 1844. P.

82. Frähn, (Ch. M.) Ibn Fozlan's und Anderer Berichte über die Russen älterer Zeit. Text und Ubersetzung. Petersburg, 1823, 8vo. 1 vol.

——— Münzen der Chane vom Ulus Dsutchi's. Petersburg, 1834, 4to. 1 vol.

83. Hammer Purgstall, (J. v.) Geschichte der Ilchane, vol. 2d.

——— Zeitwarte der Gebets, Arabisch und Deutsch. Wien, 1844, 1 vol.

84. Jahrbücher der Litteratur, 1814, Nos. 105—108, 4 vols.

85. Klaproth, (J. v.) Archiv für Asiatische Litteratur, Geschichte und Sprachenkunde. Erster Band. St. Petersb. 1810, 4to. 1 vol.

86. Pallas, (P. S.) Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften. St. Peterb. 1776—1801, 2 vols.

87. Ritter, (H.) Geographie, vols. 2—9, 9 vols.

88. Schmidt, (J. J.) Grammatik der Tibetischen Sprache. St. Petersb. 1839, 4to. 1 vol.

——— Mongolisch-Deutsch-Russisches Wörterbuch. St. Petersb. 1835, 4to. 1 vol.

——— Thaten Bogda Jesser Chan's. Aus dem Mongolischen. St. Petersb. 1839, 8vo. 1 vol.

——— Tibetisch-Deutschers Wörterbuch. St. Petersb. 1841, 4to. 1 vol.

——— Weise und der Thor, Tibetisch and Deutsch. St. Petersb. 4to. 1 vol.

89. Stuhr, Reich sreligion der Chinésen, 1 vol.

——— Religions systeme der heidnischen Völkerschaften, 2 vols.

DUTCH.

90. Eysinga, (R. V.) Nederduitch en Maleisch en Maleisch en Nederduitch Woordenbook. Batavia, 1824, 2 vols.

91. Natuur—en Geneeskundig Archief voor Neêrlandsch Indiè. Eerste Jaargang, 1844, 4 Nos. Tweede Jaargang, 2 Nos.

92. Temminck, (J. C.) Vid. Verhandlingen.

93. Tidsschrift voor Neerlands Indiè. Zesde Jaargang, 12 Nos. Zevende Jaargang, 1845, 8 Nos.

94. Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. Vols. 1, 5, 8, 11, 12, 15, 16 and 17, Nos. 2, 7, 18, 19 and 20.

95. ——————— over de Natuurlij ke Geschiedenis der Nederlaandsch overzeesche Bezittingen, door J. T. Temminck. 1 vol. Bataviè, Leiden, 1839—1842, fol.

96. Vormaer, (J. N.) Korte Beschrijning van het Zuid—Oostelijk Schiereiland van Celebes.

LATIN.

97. Bopp, (F.) Glossarium Sanscriticum, Fascicul. 2ns.

98. Eysinga, (P. R. de) Abul Abbasi Amedis Vita et Res Gestae. Lugd. Bat. 1825, 4to. 1 vol.

99. Fraehn, (Ch. M.) Recensio Numorum Muhammadanorum. St. Petersb. 1826, 4to. 1 vol.

100. Hamaker, (H. A.) De Expugnatione Memphidis et Alexandriae Liber. Text Arab. Lugd. Bat. 1825, 4to. 1 vol.

101. Hasskarl, (J. C.) Catalogus Plantarum in Horto Botanico Bogoriensi Cultarum Alter. Batav. 1844, 1 vol.

102. Hooglict, (M.) Diversorum scriptorum loci de regia Aphtasidarum familia. Text Arab. and Versio Lat. Lugd. Batav. 1839, 4to. 1 vol.

103. Menrsinge (B.) Asojutii Liber de interpretibus Korani. Text. Arab. Lugd. Batav. 1839, 4to. 1 vol.

——————— Liber Alter.

104. Rutgers, (A.) Historia Jemanae sub Hasano Pascha. Lugd. Bat. 1838, 4to. 1 vol.

105. Sandifort (Edw. and Gerh.) Museum Anatomicum Academiae Lugd. Bat. 1793—1835, fol. 4 vols.

———--(G.) Tabulae craniorum diversarum nationum. Lugd. Bat. 1838—1843, fol. 3 Fasciculi.

106. Valeton (J. J. P.) Thalibii Syntagma dictorum brevium et auctorum, Text. Arab. et Versio Latina. Lugd. Bat. 1841, 4to. 1 vol.

107. Veth (P. J.) Specimen e literis Orientalibus, exhibens majorem partem libri, Asojutii de nomia relativis inscripti, Text. Arab. Lugd. Bat. 1840, 4to. 1 vol.

- -- ——— D. D. Pars Reliqua, 1842, 1 vol.

108. Weijars (H. E.) Specimen criticum, exhibens locos Ibn. Khacanis. Text. Arab. et Versio Lat. Lugd. Bat. 1831, 4to. 1 vol.

ORIENTAL LANGUAGES.

109. Armeno-Pysii Slowany. Moskwa, 1838, 8vo. 2 vols.

110. Chmidta (R. J.) Polwigi, Zaslygh. Gevor. St. Petersb. 1836, 4to. 1 vol.

111. Ciaekeiark, (P. E.) Nuovo Dizionario Italiano-Armeno-Turco. Venezia, 1829.

112. Cobalebscimb (O.) Mongolscar Khrestomatie. Kasan, 1836—1838, 2 vols. 8vo.

113. Bengalee Tracts.

114. Grammatica Tyrsca-Tatarchago. Kasan, 1839, 8vo. 1 vol.

115. Hindee New Testament.

116. Hindustani Pentateuch.

117. Holy Bible in Hindustanee.

118. Haji S. Khalfae Lexicon, 1 vol.

119. Kitaiska Grammatica, St. Petersb. 1838, Fol. 1 vol.

120. Krishna Lall Deb, Prushnaprasika.

121. Lichaschababa, Map of the Hurce Vesetra.

122. Logranie chi. Mogolsco Rogbees chi. Kasan, 1841, 8vo. 1 vol.

123. Mongolscae Khrestomatie, Kasan, 1836, 2 vols.

124. Muir, (J.) Brief Lectures on Mental Philosophy, Sanscrit.

125. New Testament in Bengalee.

126. ——————— and English

127. Persidichae Krestomathe, Moskwa, 1832—34, 3 vols. in 2.

128. Ponofa, (A.) Arithmetic (Armenian). Kasan, 1837, 4to. 1 vol.

129. Psalms of David in Bengalee.

130. Radhakant Deb, Sanscrit Dictionary, vol. 6th.

131. Risbi, (Seüda Muhammed) Asseb-o-Isscrib ili, Lemb Planet. Kasan, 1832, 4to. 1 vol.

132. Pchonbinot, (D.) Dictionaire, Georgien, Russe-François. St. Petersb. 1840, 4to. 1 vol.

133. Tekstomb, (K.) Suhb Isbi. Isùrd ili Troedoba. St. Petersb. 1839, 4to. 1 vol.

Read the following letter from the Society's London Agents :—

HENRY PIDDINGTON, ESQ., *Sub-Secretary to the Asiatic Society.*

SIR,—We have received your letter of the 28th June last, enclosing a bill of lading for three cases shipped by the Lallah Rookh to our care, to be delivered as addressed. They shall have attention on the arrival of the vessel.

We are not prepared to promise the various numbers of the Asiatic Journal which are still required to complete the series in the Library of the Society. If we find we have them we shall be most happy to present them.

We are, Sir,
Your most obedient servants,
London, October 24th, 1845. Wm. H. Allen and Co.

Read the following letter and enclosures from the Royal Academy of Christiana, forwarded with the bill of lading by Sir Charles Tottie, Norwegian Consul in London :—

Fra det akademiske Collegium ved det Kongelige Frederiks Universitet.

To the Asiatic Society of Bengal, Calcutta.

It gives the Council of this University great pleasure to acknowledge the reception of several very valuable scientific collections from the Asiatic Society at Calcutta, viz. a Zoological one which arrived last autumn; one of different sorts of seeds and one of several books, which have been received at earlier periods. The council, in returning its sincerest thanks for these renewed proofs of kindness towards our scientific institution, begs leave to send a collection 1st. of Zoological objects from this country, consisting of quadrupeds, birds, insects, skeletons, and skulls; 2d. of coins; 3rd. of books; 4th. of dried plants and seeds, as specified in the accompanying list. Although the university council knows perfectly well, that the scientific objects, which can be got in this country, and which it has in its power to present the Asiatic Society with, by no means can be compared to those which are found in your celebrated country, it trusts, you will be kind enough to take the will for the deed, and, as hitherto, continue the scientific intercourse which has been so happily established between both learned institutions. The Zoological objects which are wanted for the Museum of your Society, the university council shall take all possible care to procure, and it hopes, a new collection may be sent next summer.

It is scarcely necessary to add, that our university will feel itself most happy to show your Society any service with respect to scientific objects in its power.

F. Holmboe, Fr. Hallager, Dietrichson, Blytt, R. Keijfer, Chr. Holst.
The Council of the Royal University at Christiania, the 22d July, 1845.

Fortegnelse over endeel, som gave fra det Kongelige Norske Universitet i Christiania til det Asiatiske Selskab i Calcutta, bestente Böger m. m.

1. Gaea Norvegica, zweite Lieferung mit zevei safeln.
   (Fôrste Levering er allerede sendts i Aaret, 1843.)
2. Nyt Magazin for Naturvidenskaberne.

   (4de Binds. 1—IV Hefte.)

3. Norsk Magazin for Lægevidenskaben.
   1—IX Bind: (ialt 27 Hefter.)
4. Das Königreich Norwegen, statistisch beschrieben von Amtmann Blom, mit zwei Karten.
5. Beretninger om Kongeriget Norges oeconomiske Tilstand i Aarene 1835—1840. med tilhörende statistike Tabeller.

6. Udkast lit Lov om Medicinalvasenet i Norge—med Motiver.
7. Indstilling fra Strafanstalt-Commissionen.
8. Om Sindssvage i Norge.
9. Holst om de Britiske Fængsler m. m.
10. Tre lagevidenskabelige Afhandlinger af Professôr, Dr. medic. Holst.
11. Bjòrgynjar Kalfskinn, edid. P. A. Munch, Historiarum Professor.
12. Enumeratio plantarum vascularium, gorecirca Christianiam sponte nascuntur, auctore M. N. Blytt, botanices professôre.
13. Endeel forskjellige Academica.
14. Det Kongelige Norske Frederiks Universitets Aarsberetning for 1842.
15. En Pakke indeholdende 81 Stf Mynter.
16. En Samling Frosorter.
17. En Norskt Herbarium.
18. Some drawings of Norwegian antiquities.
19. En Samling of Insecter efter vedlagte Fortegnelse.

Christiania 22d Juli, 1845.

CHR. HOLST.

List of Norwegian Mammalia and Birds sent from the Museum of the University to the Asiatic Society's Museum of Calcutta.

Mammalia

Skins.

1. Felis Lynx var. virgata, Nilss. ♀ adult: killed in the neighbourhood of Christiania, March, 1840.
2. ——————————— ♂ junior, killed February 1831.
3. ——————————————————, 1843.

(The three species of Mr. Temminck are not to be considered as species but only as varieties. Specimens of this species are difficult to procure.)

4. *Canis Lupus* ♂ adult: killed in the neighbourhood of Arendal, January, 1842 (common in Norway.)
5. *Mustela martes*, var: abietina, (not common) winter dress.
6. *Lutra vulgaris*, from Thellemarken, spec. junior, Autumn, 1844.
7. *Canis lagopus*, ♂ this specimen was shot in the neighbourhood of Christiania in the last hard winter. It happens seldom that it comes so far from the higher mountains.
8. *Meles Taxus*, ♂ (not rare in the southern part of Norway.)
9. *Castor Fiber*, ♀ (This animal is on the term of his extinction in Norway; in 20 years our museum has procured only two specimens); this is from Thellemarken, 1844.
10. *Mus sylvaticus*, (very common.)
11. *Sciurus vulgaris* (abundant; migrates in certain years, and is then very abundant).

Skeletons.

1. *Canis Lupus*, shot in the neighbourhood of Christiania, December 1844, (not full-grown?)
2. *Phoca vitulina*, shot in August, 1843, on the west coast of Norway, (young.)
3. *Delphinus leucopleurus*, Rasch. killed in the fiord of Christiania, June, 1842.
4. *Phocæna vulgaris*, (common.)

Crania.

1.—2. *Ursus arctus*, ♂ adult : ♀ junior. (This species is not rare in Norway.)

3. *Gulo borealis*, ♂ adult : (Not common and very difficult to procure.)

4. *Canis vulpes*, (common.)

5. Head of *Cervus alces* (with the skin on) : ♂ four years old. Is at the present time very difficult to procure. The feet of the animal are added.

6. A frontlet with adherent head-skin of *Cerv. Tavandus*, fem : ♂ killed November, 1843, in the Alps of Guldbrandsdalen.

7. A head without horn of the same animal.

8. A frontlet.

Birds.

1. *Pernio apinarus*, ♀ (a rare preying bird in Norway.)

2.—3. *Buteo vulgaris*, (very common in the southern part.)

4. *Milvus regalis*, ♂ (rare in Norway but common in Sweden.)

5.—8. *Astur palumbarius*, old and young, (common.)

9.—11. *Strix Aluco*, (common.)

12. ——— *Otus*, (rare.)

13. ——— *Tegnmalmi*, (not common.)

14. *Passerina*, ♂ *Gin. acadica*, *Temm.* (rare.)

15. *Cypselus apus*, (common.)

16. *Caprimulgus europæus*, (common.)

17.—18. *Picus viridis*, ♂ ♀ ditto.

19.—20. —— *martius*, (not rare.)

21. —— *leuconotus*, (rare.)

22.—24. *Plectrophorus nivalis*, (in certain years common.)

25.—26. *Emberiza hortulana*, (common.)

27. *Pyrrhula vulgaris*, ♂ (ditto.)

28. *Fringilla montifringilla*, ♂ summer dress (com. in the alp. reg.)

29. ——— *spinus*, ♂ *hab. æstivali*, (common.)

30.—31. *Sitta europæa*, ♂ ♀ : (common.)

32.—33. *Hirundo rustica*, (abundant.)

34.—35. *Bombycilla garrula*, ♂ ♀ (in certain winters very abundant.)

36.—37. *Garrulus glandarius*, ♂ ♀ (common.)

38.—39. *Nucifraga coryocatactes*, ♂ ♀ (this rare bird was in the past autumn very abundant in the whole peninsula and migrated southwards.)

40. *Pica caudata*, (very common.)

41. *Cinclus aquaticus*, ♂ : (common.)

42.—43. *Anthus obscurus*, ♂ ♀ : (common on the west coast,) Christiansund, 1843.

44.—45. *Motacilla flava*, (not rare.)

46. *Saxicola œnanthe*, (very abundant.)

47. *Lanius excubitar*, (rare.)

48. *Crex pratensis*, (common.)

49. *Totunus Glottis*, *hab. æstivali*, (not rare.)

50. *Scolopax major*, (not rare.)

59. *Corvus cornix*, (abundant.)

Christiania, 20 *Juni*, 1845. H. Rasch.

Read the following note from Captain Huddlestone :—

MY DEAR SIR,—I have the pleasure to send a few horns, a large sheet of Nepaul hill paper, a small copper blow pipe used by the Sonars in the hills, and a few specimens of woods for the Asiatic Society's Museum, which I hope may be acceptable.

Your's truly,
W. HUDDLESTONE, *Capt.*
7th Regt. N. I.

Spence's Hotel, Jan. 2d, 1846.

Read the following letter :—

No. 678 of 1845.

FROM P. MELVILL, ESQ. *Officiating Under Secretary to the Government of India.*
To the Secretary to the Asiatic Society of Fort William, the 22d Dec. 1845.

FOREIGN AND SECRET DEPARTMENT.

SIR,—I have the honor to acknowledge the receipt of your letter without date, with its accompaniments, which have been retained in this office.

2. I have however to remark that, two other papers as noted in the margin did not accompany the above as required in the Office Memorandum from this Department dated 18th July last, No. 2044; I have therefore to request that they may be forwarded with the least practicable delay.

1. Notes on the Commerce, Revenue, and Military Resources of the Punjaub, taken in 1837.
2. Information of certain countries little known to Europeans lying beyond the Indus and Cabool Rivers.

I have the honor to be, Sir,
Your most obedient servant,
P. MELVILL,
Offg. Under Sec. to the Govt. of India

Fort William, the 22d Dec. 1845.

Read the following letter from the Academie Royale de Bordeaux :—

Academie Royale Des Sciences, Belles-Lettres et Arts de Bordeaux.

MONSIEUR,—J'ai l'honneur de vous adresser le recueil des travaux de l'Academie Bordeaux durant les anniés 1843 et 1844.

Votre Société avait bien voulu nous faire passer autrefois le journal mensuel qu' elle publiait et cette communication était pour nous d'une bien grand prix ; malhenrensement depuis la fin de 1838, nous si avons plus rien rien de vos publications.

J'espère, Monsieur, que vous seréz assez obligeant pour nous en transmettre la suite ; elle nous parviendra exactement si vous voulez bien l'addresser a Mr. Guestier junior, l' un de nos collegues.

Cet echange de travaux Scientifiques doit, de part et d'autre, tourner á un mutuel avantage.

Veuillez agreer, Monsieur, l'assurance de ma consideration la plus distingué.

GRE. BRANET,
Secretaire General.

Bordeaux, Le 26 Juillen, 1845.
A Monsieur le Secrétaire de la Société Asiatique á Calcutta.

Read the following letter and catalogue:

To H. TORRENS, ESQ. *Secretary, Asiatic Society, &c. &c. &c.*

SIR,—I beg you will do me the favour of presenting to the Asiatic Society the accompanying series of fossil shells from Danish and Swedish localities, identified in the annexed list, which I have lately received by H. D. M. ship *Galathea*, from Professor Forchhammer of Copenhagen. Some of the shells are mentioned and figured by Mr. Chas. Lyell, in his memoir on the Cretaceous and Tertiary Strata of the Danish Islands of Seeland and Möen. (Transact. Geolog. Society. Vol. v. 2d. Ser. p. 243.)

I have the honor to be, Sir,
Your most Obedt. Servt.
THEO. CANTOR.

Staff Barracks, Fort William, 29th Dec. 1845.

1. Brachiurus rugosos. Newer chalk. Faxoe.
2. Brachiurus lævior. Newer chalk. Faxoe.
3. Serpula gordialis. Greensand. Scania.
4. Nautilus Danicus. Newer chalk. Faxoe.
5. Belemnities mucronatus. Greensand. Scania.
6. Belemnities mamillatus. Greensand Scania.
7. Trochus niloticiformis, Schl. Newer chalk. Faxoe.
8. Cerithium Fäxoënse. Newer chalk. Faxoe.
9. Cerithium Selandicum. Newer chalk. Faxoe.
10. Cypræa spirata. Newer chalk. Faxoe.
11. Cypræa bullata. Newer chalk. Faxoe.
12. Arca lineata, Schl. Newer chalk. Faxoe.
13. Nucula ovata. Greensand. Scania.
14. Nucula, ——— ? Newer chalk. Faxoe.
15. Terebratula carnea. Newer chalk. Steons Klint.
16. Terebratula flustracea. Newer chalk. Faxoe.
17. Terebratula. Newer chalk. Faxoe.
18. Terebratula lyra. Greensand. Scania.
19. Terebratula longirostris. Greensand. Scania.
20. Terebratula ovata. Greensand. Scania.
21. Lima ovata. Greensand. Scania.
22. Lima ——— ? Greensand. Scania.
23. Lima denticulata. Greensand. Scania.
24. Pecten inversus. Greensand. Scania.
25. Pecten subaratus. Greensand. Scania.
26. Spondylus lamellosus. Greensand. Scania.
27. Spondylus truncatus. Greensand. Scania.
28. Mytilus ungulatus. Newer chalk. Faxoe.
29. Ostrea diluviana. Greensand. Scania.
30. Ostrea lunata. Greensand. Scania.
31. Ostrea vesicularis. Newer chalk. Steons Klint.
32. Ostrea reflexa. Newer chalk. Faxoe.
33. Ostrea hippopodium. Greensand. Scania.

34. Ostrea curvirostris. Greensand. Scania.
35. Ostrea acutirostris. Greensand. Scania.
36. Exogyra cornu-arietis. Greensand. Scania.
37. Exogyra laciniata. Greensand. Scania.
38. Exogyra auricularis. Greensand. Scania.
39. Crania striata. Greensand. Scania.
40. Crania nummulus. Greensand. Scania.
41. Ananchytes sulcata. Greensand. Scania.
42. Ananchytes striata. Newer chalk. Steons Klint.
43. Dentalium rugosum. Newer chalk. Seeland.
44. Impressions of Isis Stobæi. Scania.
45. Isis Faxoensis. Newer chalk. Faxoe.
46. Fungia coronata. Greensand. Scania.
47. Fungia. ————? Greensand. Scania.
48. Coprolithes Mantelli. Saxony.

Some of the fossil shells mentioned in Transactions of the Geological Society, Vol. V. 2d. Series, XX. On the Cretaceous and Tertiary Strata of the Danish Islands of Seeland and Möen. By Charles Lyell, Esq. P. G. S., F. R. S.

Read the following letter from Lieut.-Colonel Stacy addressed to the Sub-Secretary.

MY DEAR SIR,—At page 81 of Proceedings, No. 163, July, 1845, you are quoted as the authority for Captain Cautley having said I presented the two articles he took down for me from Futteyghur to the Society. As I understand Captain Cautley has sailed, allow me to correct this mistake. They are not presented to the Society but simply sent for submission to the Society and then to be placed with the rest of my property in the museum.

I beg you will do me the favour of communicating accordingly to the Society. Will you also do me the favor to request that a spare print of any published coins may always be sent with my copy of the journal, I should be obliged by your sending me plates, Nos. 1 and 2, of Indo Sythic coins, by Lieut. Cunningham.

Your's, &c.

Meerutt, December 1*st*, 1845. S. B. STACY.

The Sub-Secretary explained that his present impression was still that Captain Cautley had not only *presented* the antiquities from Col. Stacy, but that a chit had been sent with them stating it, which he yet hoped to find. It was ordered that the note should be printed as a record.

Captain Marshall objected to the infringement of the rules of the Society, in the case of the Committee of Papers having engaged in certain financial arrangements which they ought not to have interfered with. He urged a recurrence to the strict letter of the rules restricting the Committee to the execution of their own peculiar duties.

An explanation was offered by the Secretary, which went to shew

that the Committee did no more than propose a course to be adopted by the Society, without taking any actual measures themselves.

After some discussion the subject dropped.

Captain Marshall remarked on a certain entry in the proceedings of May, 1845, as follows:

"The Secretary brought forward a MS. Journal of Travels in the Himalaya written by me in 1827, and a book of drawings which had been sent to him for insertion in the Journal of this Society. The Secretary remarked to the Meeting, that my Journal was of "a private and domestic nature," and he further stated to the effect that the paper had lost its interest from the long period which had elapsed since its composition, and in consequence of other travellers having since passed over the same ground. The Secretary then, after a short pause, and without submitting my contribution for the orders of the meeting, proceeded to other business."

Resolved that the Society put on record, that the expressions made use of by the Secretary with respect to Capt. Marshall's paper are not the sentiments of the Society, and they do not contain the opinion of the Society as to its contents.

The Secretary expressed his regret at having recorded in the proceedings his individual opinion of a Journal, as to which other and most competent judges thought very differently, and which he did not at the time know to be Capt. Marshall's.

REPORT OF THE CURATOR MUSEUM ECONOMIC GEOLOGY AND GEOLOGICAL AND MINERALOGICAL DEPARTMENTS.

GEOLOGY AND MINERALOGY.

The only contributions we have received this month have arrived too late for me to report upon them, having no letters or papers with them. The following letter from Lieut. Sherwill has just been received.

To H. PIDDINGTON, ESQ. *Curator to Museum Economic Geology, Calcutta.*

MY DEAR PIDDINGTON,—I write these few lines to inform you of the despatch per steamer of a small box containing specimens of a very pretty variety of kunkur, from the district of Benares, containing about fifty per cent. of fresh water shells, from an inch and a half in length to those of a microscopic smallness. I have only been able out of many thousands, to detect more than 5 kinds, all of which are of fresh water origin, exceedingly brittle, but beautifully perfect, evidently the deposit of an extensive lake, long since filled up, as they lie 20 feet below the soil. For the following description of locality, &c. I am indebted to my friend, Mr. George Wyatt, Deputy Collector of Benares.

"The shell kunkur is found in large quantities between the Naudh and Burnah Nuddies, at a depth of 15 to 20 feet under the surface of the country. The specimens are from the village of Pindra on the road from Benares to Jounpoor. Towards the Naudh Nullah the shells in the kunkur are in larger quantities than in the kunkur about the Burnah. It is found in one uninterrupted sheet from 15 to 20 miles in extent varying from one to two inches in thickness. The kunkur is eagerly sought after for Lime, which is purer and more valuable than that made from the common nodular kunkur.

"Small wells are dug, barely wide enough to admit the workman, and when he arrives at the stratum of kunkur he works laterally as far as he can with safety, breaking up the kunkur with a pickaxe.

"The kunkur is too soft to be used as metal for roads."

I enclose you a sketch of the various shells—natural size; and have sent per dák bhangy a small box containing some detached ones.

R. S. SHERWILL.

Buxar, 29th December, 1845.

MUSEUM OF ECONOMIC GEOLOGY.

I have been mostly employed in the Laboratory during this month, but have not sufficiently completed any thing to report upon it with confidence.

The collections of the Coal and Iron Committee have been received into the Museum, but I have been obliged to delay arranging so as to report upon them, in order to get the cases painted.

H. PIDDINGTON.

For all the above communications and presentations the best thanks of the Society were awarded.

एसियाटिक् सोसाइट् संस्कृत नागराक्षर ॥

महाभारतं आद्यन्त ४ खण्ड	४०
महाभारतीयान्तर्गतसूचीपत्रं आद्यन्त ४ खण्ड	६
नैषध आद्यन्त सटीक् १ खण्ड	६
हरिवंश आद्यन्त १ खण्ड	५
राजतरङ्गिणी आद्यन्त १ खण्ड ...	५
सुश्रुत आद्यन्त २ खण्ड	८
सूची पुस्तकं १ खण्ड	१
लासनेन रचितं सर्व साधारण	४
गीतगोविन्द् १ खण्ड	२॥
यज्ञदत्तवधः १ खण्ड	२२॥
शकुन्तला नाटक्	१०

فهرست کتابهاي عربي وفارسي مطبوع که در خانهٔ اشياتک سوسيتي حسب تفصيل الذيل بقيمتهاي مناسب براي فروخت موجود اند

اسامي کتب	قيمت
فتاوى عالمگيري مرتب بشش جلد فى جلد	هشت روپيه
عنايه جلد ثاني وثالث ورابع في جلد ...	هشت روپيه
شرائع الاسلام	هشت روپيه
انيس المشرحين	پنج روپيه
جوامع علم رياضي	چهار روپيه
اصطلاحات صوفيه	پنج روپيه
خزانة العلم	هشت روپيه
تاريخ نادري	هشت روپيه
فهرست کتب کالج فورت وليم واشياتک سوسيتي	يکروپيه

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